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CONVENIENCE FOOD LOGISTICS MODEL (CFLM) USER'S MANUAL

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and
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***INFORMATION TECHNOLOGY SOLUTIONS, INC .
Reston, VA 22091**

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To study the logistical impact of using convenience food products in Navy food service systems, the Convenience Food Logistics Model (CLFM) was developed as a management tool to perform such evaluations. The CFLM is primarily an optimization tool which takes food cost, labor and storage data from databases built into the system, a menu consisting of Armed Forces Recipe Service recipe items, and user supplies substitution percentages for various recipe categories to generate an optimal substituted menu. The objective of this report is to familiarize the user with the CFLM and provide information necessary for effectively using system features and functions. This is one of four reports related to this effort. The others are: "Convenience Food Logistics Model - Design," Miller, J. and Evangelos, K., NATICK/TR-96/016; "Logistical Analysis of Convenience Food Substitution in a Typical Navy Menu for a Wasp Class Amphibious Assault Ship (LHD)," Saraf, S., Ph.D., Evangelos, K. And Hill, B., NATICK/TR-96/018; and "Analysis of the Impact of Convenience Foods on Navy Food Service," Evangelos, K., Adams, S., Dr.PH, RD, Short, P. et al., NATICK/TR-96/019.

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CONTENTS

LIST OF FIGURES	ix
PREFACE	xi
1. INTRODUCTION	1
1.1 Purpose Of The User's Guide	1
1.2 Conventions	1
1.3 Security	2
1.4 Messages	2
2. GETTING STARTED	3
2.1 Installing The Convenience Food Logistics Model - Database Management System	3
2.2 Accessing The Convenience Food Logistics Model -Database Management System	3
3. SYSTEM SUMMARY	4
3.1 General Information.....	4
3.2 System Requirements.....	4
3.2.1 Hardware Requirements	4
3.2.2 Software Requirements	4
3.3 CFLM DBMS Menu Structure	5
3.4 Standard Menu Options.....	6
3.5 Standard Button Functions and Keystrokes.....	7
3.6 On-Line Help.....	8
4. RECIPE INFORMATION SCREEN	9
4.1 General Information.....	9
4.2 Recipe Information Screen Command Buttons.....	9

CONTENTS (CONT'D)

4.2.1 Select Recipe Category Command Button.....	9
4.2.2 Select Product Type Command Button	9
4.2.3 Select Standard Labor Type Command Button.....	10
4.2.4 Browse Existing Recipes Command Button	10
4.2.5 Ingredients Command Button.....	10
4.2.6 Calculate Cost/100 Command Button	11
4.2.7 Generate Substitution List Command Button	11
4.2.8 Display Conv Food Substitutes Command Button	11
4.2.9 Save Command Button	12
4.2.10 Exit Command Button	12
4.2.11 Execute Search Command Button.....	12
4.3 Adding New Recipes.....	12
4.3.1 How to Add a New Recipe	13
4.4 Deleting Recipes.....	16
4.4.1 How to Use the Delete Option	16
4.5 Searching for Recipes.....	17
4.5.1 How to Use the Search Option.....	17
4.6 Saving Recipe Information	17
4.7 Print Options.....	17
4.7.1 Recipe Information	18
4.7.2 Convenience Food Substitutes	18
4.7.3 Ingredients Not Available To Navy	18
5. CONVENIENCE FOODS SCREEN	19
5.1 General Information	19
5.2 Convenience Foods Screen Command Buttons	19
5.2.1 Category Command Button.....	19
5.2.2 Manufacturer Command Button.....	19
5.2.3 Product Type Command Button.....	19
5.2.4 Select Standard Labor Type Command Button.....	20
5.2.5 Storage Type Command Button.....	20
5.2.6 Calc Reqmts/100 (Calculate Cost and Storage per 100 Portions) Command Button	20
5.2.7 Save Command Button	20
5.2.8 Exit Command Button	20
5.2.9 Execute Search Command Button.....	20
5.3 Product Attributes.....	21
5.3.1 How to Add New Convenience Food Products	22
5.4 Deleting Convenience Food Products	24
5.4.1 How to Use the Delete Option	24
5.5 Searching for Convenience Food Products.....	24
5.5.1 How to Use the Search Option.....	24
5.6 Saving Convenience Food Product Information	25

CONTENTS (CONT'D)

5.7 Print Options	25
6. MENU CREATION SCREEN	26
6.1 General Information.....	26
6.2 Menu Creation Screen Command Buttons	26
6.2.1 Add Recipe Command Button.....	26
6.2.2 Select Recipe Command Button.....	26
6.2.3 Delete Recipe Command Button	27
6.2.4 View Menu Command Button.....	27
6.2.5 Save Menu Command Button.....	27
6.2.6 Close Menu Command Button	27
6.2.7 Exit Command Button.....	27
6.2.8 Select a Meal Command Button	27
6.3 Creating a New Menu.....	28
6.3.1 How to Create a New Menu.....	28
6.4 Deleting a Menu	29
6.4.1 How to Use the Delete Option	29
6.5 Print Options	29
6.5.1 Print Current Menu	30
6.5.2 Print Generic Salad Bar Menu	30
6.5.3 Print Generic Speedline Menu	30
6.5.4 Print Miscellaneous Items Menu.....	30
7. LOGISTICAL INFORMATION SCREEN	31
7.1 General Information.....	31
7.2 Logistical Information Screen Command Buttons	31
7.2.1 Storage Command Button.....	31
7.2.2 Acq. Advice Code Command Button.....	31
7.2.3 Usage Mgmt Codes Command Button	31
7.2.4 Browse Existing Items Command Button	32
7.2.5 Execute Search Command Button.....	32
7.2.6 Recipes Command Button.....	32
7.2.7 Save Command Button	32
7.2.8 Exit Command Button.....	32
7.3 Adding Federal Stock Catalog Items.....	32
7.3.1 How to Add Federal Stock Catalog Items	33
7.4 Deleting Federal Stock Catalog Items	34
7.4.1 How to Delete Federal Stock Catalog Items.....	34
7.5 Searching for Logistical Information.....	35
7.5.1 How to Use the Search Option.....	35
7.6 Print Options	35
7.6.1 Print Logistical Information for Item	35
7.6.2 Print List of Recipes with this Ingredient	35

CONTENTS (CONT'D)

8. SHIP INFORMATION SCREEN	36
8.1 General Information	36
8.2 Ship Information Screen Command Buttons	36
8.2.1 Classification of Ship Command Button	36
8.2.2 Type w/in Classification Command Button	36
8.2.3 Class of Ship Command Button	36
8.2.4 Browse Existing Ships Command Button	37
8.2.5 Execute Search Command Button	37
8.2.6 Save Command Button	37
8.2.7 Exit Command Button	37
8.3 Adding New Ship Information	37
8.3.1 How to Add New Ship Information	38
8.4 Deleting Ship Information	39
8.4.1 How to Delete Ship Information	39
8.5 Searching for Ship Information	39
8.5.1 How to Use the Search Option	39
8.6 Print Options	40
9. OPTIONS - RUN LOGISTICAL INQUIRY A-RATIONS	41
9.1 General Information	41
9.2 Logistical Inquiry A-Rations Screen Command Buttons	41
9.2.1 Select Menu Command Button	41
9.2.2 Select Ship	41
9.2.3 Calculate Logistics	41
9.2.4 Close Menu Button	41
9.2.5 Exit Command Button	42
9.3 New Inquiry	42
9.3.1 How to Run a New Inquiry	42
9.4 Preview/Print Reports	43
9.4.1 Print User Input	44
9.4.2 Print Selected Menu	44
9.4.3 Print Menu with Labor/Eq/Strg/Cost Req.	44
9.4.4 Print Logistical Info with List of Requirements	44
9.4.5 Identify Items by Application Logistical Code	44
9.4.6 Print List of Acquisition Advice Codes	44
9.4.7 Print List of Usage Management Codes	44
10. OPTIONS - RUN OPTIMIZATION MODEL OPTION	46
10.1 General Information	46
10.2 Logistical Optimization Screen Command Buttons	46
10.2.1 Select Menu Command Button	46
10.2.2 Select Ship Command Button	46

CONTENTS (CONT'D)

10.2.3 Generate Substituted Menu Command Button.....	46
10.2.4 Close Menu Button.....	47
10.2.5 Exit Command Button.....	47
10.3 New Inquiry	47
10.3.1 How to Run a New Inquiry	47
10.4 Preview/Print Reports.....	49
10.4.1 Print User Input	49
10.4.2 Print Input A-Ration Menu.....	49
10.4.3 Print A-Ration Menu with Logistics	49
10.4.4 Print Optimized Menu with Substitutions.....	49
10.4.5 Print Optimized Menu with Logistics.....	50
10.4.6 Print Items with List of all Substitutes	50
10.4.7 Print A-Ration versus Optimized Comparison.....	50
10.4.8 Print Equipment Comparison.....	50
11. OPTIONS - UPDATE PRICES	51
11.1 General Information.....	51
11.2 PRICE UPDATE Screen Command Buttons	51
11.2.1 Update Prices Command Button.....	51
11.2.2 Update Recipe Costs Command Button.....	51
11.2.3 Close File Command Button.....	51
11.2.4 Exit Command Button.....	51
11.3 Logistics File Database Price Update Procedures	52
11.3.1 How to Update Prices	53
APPENDICES	55
Appendix A - Glossary Of Terms And Abbreviations	57
Appendix B - Error Messages	63
Appendix C - Recipe Labor Codes	67
Appendix D - Convenience Food Labor Codes	71
Appendix E - Recipe Categories	73
Appendix F - Product Types	75
Appendix G - Ship Classification, Type, Class Codes	79

LIST OF FIGURES

Figure 3.3-1	CFLM DBMS Menu Structure	5
Figure 4.3-1	Recipe Information Screen	12
Figure 4.3.1-1	AFRS - Ingredients Screen	13
Figure 4.3.1-2	Browse Window	14
Figure 4.4-1	Delete Recipe Function Dialog Box	16
Figure 5.4-1	Convenience Food Screen	22
Figure 6.2-1	Menu Creation Screen	28
Figure 7.3-1	Logistical Information Screen	33
Figure 8.3-1	Ship Information Screen	38
Figure 9.3-1	Run Logistical Inquiry A-Rations Screen	42
Figure 10.3-1	Run Optimization Model Screen	47
Figure 11.3-1	Price Update Screen	53

Preface

The Convenience Food Logistics Model (CFLM) and its supporting Database Management Information System (DBMS) were developed by Information Technology Solutions, Inc. (ITS) as a decision support system for the Naval Supply Systems Command (NAVSUP). The project was completed under the direction of US Army Natick Research, Development & Engineering Center from September 1994 until June 1995. The purpose of this effort was to develop a computer based information system that projects the potential impact of prepared or "convenience" foods on food service aboard 21st century Navy warships.

This report is one of four related reports published as a result of the efforts for the Navy Food Service 2000 (NFS 2000) project. The purpose of this project was to investigate the impact of using convenience foods in Navy food service. The other three reports include the design of the model, an analysis using the model, and the results of Navy Food Service 2000 project. Their respective titles and Technical Report numbers are: "Convenience Food Logistics Model - Design," Miller, J., Saraf, S., PhD, and Evangelos, K., NATICK/TR-96/016; "Logistical Analysis of Convenience Food Substitution in a Typical Navy Menu for a Wasp Class Amphibious Assault Ship (LHD)," Saraf, S., Ph.D., Evangelos, K. And Hill, B., NATICK/TR-96/018; and "Analysis of the Impact of Convenience Foods on Navy Food Service," Evangelos, K., Adams, S., Dr.PH, RD, Short, P. et al., NATICK/TR-96/019.

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The authors also wish to acknowledge Teddy Spealman and Rebecca Shuford, of the ITS project team, for their assistance in the development of the User's Manual, Windows on-line Help System, and Graphics, as well as their efforts.

CONVENIENCE FOOD LOGISTICS MODEL USER'S MANUAL

1. INTRODUCTION

1.1 Purpose Of The User's Guide

The objective of this manual is to familiarize new users with the Convenience Food Logistics Model (CFLM) and to provide information necessary for effectively using system functions and features.

1.2 Conventions

The following conventions are used throughout this document:

- **Bold** text indicates the name of a pull down menu.
- ***Bold Italicized*** text indicates the name of the screen displayed.
- *Italicized* text is used to indicate buttons.

A Glossary of Terms and Abbreviations used throughout this manual can be found in Appendix A; Appendix B contains a list of Error Messages; Appendix C contains Recipe Labor Codes; Appendix D contains Convenience Food Product Labor Codes; Appendix E contains the Recipe Categories; Appendix F contains Product Types; and Appendix G contains Ship Classifications, Types, and Class Codes.

1.3 Security

The Convenience Food Logistics Model is based on Naval Supply Systems Command (NAVSUP) Publication 7, Armed Forces Recipe Service (AFRS), REVISION, September 1992. Any changes to a recipe alters this military document. Changes to a recipe should be saved as a new recipe versus replacing an existing one thus ensuring data integrity. In addition, it is important to note that the CFLM is designed using tables stored in specific directories. Any attempt to change these directories will cause system failure.

1.4 Messages

The system is designed with a series of built-in messages to alert and prompt the user as necessary. These messages are in the form of Error, Warning, and Information Messages. These messages are displayed in dialog boxes and most require a response by the user. Click on the *OK* button of the Error, Warning, or Information dialog box after reading the message to continue. If the Program Error box appears, click on the *Ignore* button. The system will return to the data field that caused the message to allow the user to respond accordingly. (A list of Error Messages can be found in Appendix B.)

2. GETTING STARTED

2.1 Installing The Convenience Food Logistics Model - Database Management System

Before installation of the Convenience Food Logistics Model (CFLM) - Database Management System (DBMS) a backup copy of the original installation disks should be made. To install the CFLM - DBMS, insert Disk 1 in the 3 1/2 inch disk drive and type Setup. The user will be instructed to insert additional disks as required. Once installed, a back-up copy of the contents in the Tables directory should be made which may be used to restore operation of the system in case the data becomes corrupted. These files should also be backed-up on a regular basis in case of system failure. The user will be able to restore the system by simply copying the back-up Tables sub-directory over the corrupted file.

2.2 Accessing The Convenience Food Logistics Model - Database Management System



The CFLM - DBMS is accessed by double-clicking the CFLM DBMS Icon located in the Main Application Window of the Program Manager. The *Convenience Food Logistics Model Screen* (Figure 2.2-1) will appear with main menu options displayed.

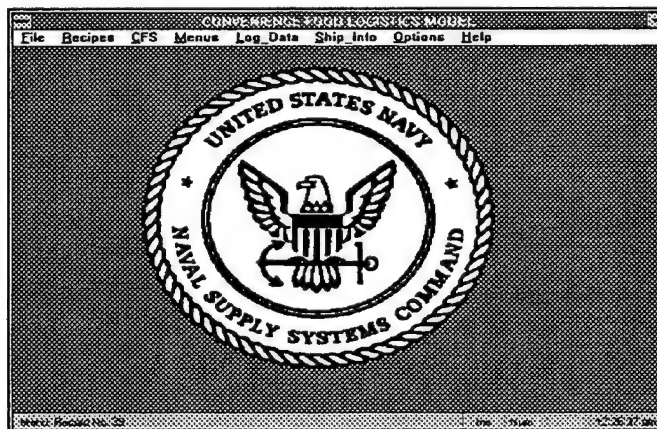


FIGURE 2.2-1 Convenience Food Logistics Model Screen

3. SYSTEM SUMMARY

3.1 General Information

The CFLM DBMS was designed for the Naval Supply Systems Command (NAVSUP) to be used as a management tool for conducting logistics and cost/benefit analyses on the Armed Forces Recipe Service menu items (A-Rations) when substituted with convenience food products. The model has several Navy unique features and includes inquiry and report generation capabilities. Analyses are accomplished by iteratively running logistical inquiries for various ship types, attendance and selection rates. Changes to substitution rates for various 'generic categories' of menu items such as entrees, breakfast items, etc. can easily be generated to determine effects of convenience food product substitution on labor hours, food costs, and storage.

3.2 System Requirements

The following paragraphs define the hardware and software requirements necessary to implement and support the CFLM DBMS application.

3.2.1 Hardware Requirements

Workstations - In order to implement the CFLM DBMS application, workstations should be, at a minimum, a 486DX class PC with a Central Processing Unit (CPU) speed rated at 33 MHz. Each workstation should be configured with a minimum of 8 MB of RAM, a 3 1/2 inch floppy disk drive, 4 MB hard disk space, a high resolution, non-interlaced color video display (1024 x 768), an SVGA video card, a keyboard and a mouse.

3.2.2 Software Requirements

The CFLM DBMS application workstations should be configured with the following software: MS DOS 6.0, Microsoft Windows Version 3.1, or higher.

3.3 CFLM DBMS Menu Structure

The CFLM DBMS Menu Structure (Figure 3.3-1) displayed below contains a menu bar with menu items that allow the user to navigate through the system processes. The menu options for all of the menu levels are described in detail in the following chapters.

File	Recipes	CFS	Menus	Log Data	Ship Info	Options	Help
EXIT	FILE	FILE	FILE	FILE	FILE	RUN	CON-
	New	New	Create	New	New	LOGIS-	TENTS
	Delete	Delete	Menu	Delete	Delete	TICAL	SEARCH
	Search	Search	Select	Search	Search	INQUIRY	FOR
	Exit	Exit	Menu	Exit	Exit	(A-Rations)	HELP ON
	<i>Ingredients</i>	PRINT	Delete	PRINT	PRINT	FILE	ABOUT
	<i>Screen</i>	Print	Menu	Print	Print Ship	Exit	THE
	<i>File</i>	Convenience	Exit	Logistical	Information	INQUIRY	CFLM
	<i>Add</i>	Product	PRINT	Information	HELP	New Inquiry	
	<i>Delete</i>	Information	Print	For Item		REPORTS*	
	<i>Exit</i>	HELP	Current	Print List of		HELP	
	PRINT		Menu	Recipes		RUN	
	Recipe		Print	W/This		OPTIMIZ-	
	Information		Generic	Ingredient		ATION	
	Conv Food		Salad	HELP		MODEL	
	Substitutes		Bar			FILE	
	Ingredients		Menu			Exit	
	Not Avail.		Print			INQUIRY	
	to Navy		Generic			New Inquiry	
	HELP		Speed-			REPORTS*	
			line			HELP	
			Menu			UPDATE	
			Print			PRICES	
			Miscel-				
			aneous				
			Items				
			Menu				
			HELP				

FIGURE 3.3-1 CFLM DBMS MENU STRUCTURE

***REPORTS**

- ***Run Logistical Inquiry A-Rations***
 1. Print User Input
 2. Print Selected Menu
 3. Print Menu with Labor/Eq/Strg/Cost Req.
 4. Print Logistical Info with List of Requirements
 5. Identify Items by Application Logistics Code
 6. Print List of Acquisition Advice Codes
 7. Print List of Usage Management Codes
- ***Run Optimization Model Option***
 1. Print User Input
 2. Print Input A-Ration Menu
 3. Print A-Ration Menu with Logistics
 4. Print Optimized Menu with Substitutions
 5. Print Optimized Menu with Logistics
 6. Print Items with List of all Substitutes
 7. Print A-Ration versus Optimized Comparison
 8. Print Equipment Comparison

3.4 Standard Menu Options

There are three standard menu options available on the menu bar for the *Recipe Information*, *Convenience Foods*, *Logistical Information*, and *Ship Information Screens*:

1. **File** -- New, Delete, Search, and Exit.
2. **Print** -- Varies with each screen based on preformatted print functions
3. **Help** -- *Contents and Search For Help On.*

The *Menu Creation Screen* has three standard menu options available:

1. **File** -- Create Menu, Select Menu, Delete Menu and Exit.
2. **Print** -- Varies based on preformatted print functions
3. **Help** -- *Contents and Search For Help On.*

The four standard menu options available when selecting *Run Logistical Inquiry A-Rations* or *Run Optimization Model* from the **Options** menu item are:

1. **File** --Exit
2. **Inquiry** -- New Inquiry

3. **Reports** -- Previews/Prints preformatted reports.

4. **Help** -- *Contents and Search For Help On.*

The system's default mode is Edit. The system will remain in edit mode until either the **Search** or **New** option is selected. To add a new record to the CFLM DBMS, select **New** from the **File** menu option; the system will enter append mode. To delete a record, select **Delete** from the **File** menu option. To search for a record, select **Search** from the **File** menu option, provide the desired search criteria and click on the *Execute Search* button located on the bottom of the screen to start the search.

3.5 Standard Button Functions and Keystrokes

Command Buttons, also called Push Buttons, are used throughout the CFLM DBMS to invoke a particular action associated with a screen. To execute the action, use the mouse to point-and-click on the Command Button. Note that most Command Buttons only require a single-click on the mouse to be executed. Most commonly used Command Buttons throughout the CFLM are the *Save* and *Exit* buttons.

Press the *Save* button to save new information. To exit the screen click on the *Exit* button. If a new record has been added and has not yet been saved, a dialog box will appear prompting the user to save the changes prior to exiting. On the screens that do not display a *Save* button, any modifications made will be saved directly. Click on the *Exit* button or select *Exit* from the **File** menu to exit the screen.

Another type of button used in the CFLM DBMS is called the *Radio* button. These buttons are displayed as circles with a black dot placed in the center of the chosen option. If the user selects a different option, the one that is currently selected is changed back to a plain circle. Only one option can be selected at a time. For example, *Radio* buttons are used to select the report destination in the **Print** option.

Check Boxes provide the ability to select from various options. When an option is selected, an 'X' appears in the box; otherwise the box appears empty. For example, the user can select other equipment required for a recipe in the *Recipe Information Screen* by using the Check Box feature.

To view or edit records, use the '*Page Up*' and '*Page Down*' keys located on the keyboard. The Status bar located at the bottom of the screen indicates the leading table into which information is being stored. It will also indicate the record number in the table where the system is standing. For example if 'Log file 1713/1925' was displayed, the system would be standing at record number 1713 (1925 records total) in the Log-file table. Press the *Execute Search* button to activate the search function after **Search** has been selected from the **File** menu and the search criteria has been entered. Use '*Page Up*' and '*Page Down*' keys to review the result set. There may be a slight delay between the time a user presses a '*Page Up*' or '*Page Down*' key and the time the data is displayed on the

screen. This is due to the overhead required to refresh the screen. ('Refreshing' the screen is the process by which new data appears as the system moves to a new record.).

When selecting an item from a pop-up, use the scroll bar to view the entire selection and click on the desired item. If the list of items is larger than can fit in the pop-up, the user can access an item quicker by pressing the first letter of the item (i.e., 'L' to scroll quickly to the items whose title begins with an 'L'). Click outside the pop-up to avoid selecting from the box if desired.

To move around in the CFLM DBMS screens, the user can use the 'Tab' or the 'Enter' key after entering a data field to automatically move the cursor to the next logical data field. The user can use the mouse to move directly to a specific data field if desired.

Selecting menu options can be done using shortcut keys. By pressing the 'Alt' key and the letter that is underlined moves the user quickly to the desired function. For example, pressing *Alt R* opens the *Recipe Information Screen*.

3.6 On-Line Help

The **Help** menu allows users to obtain information about the CFLM DBMS and its functions, using the standard hyper-text features found in other Windows Help systems. These features include the capability to search for topics by keywords, print and annotate topics, and create bookmarks.

4. RECIPE INFORMATION SCREEN

4.1 General Information

The *Recipe Information Screen* allows the user to perform functions such as add, delete and search for recipes in the AFRS database. The *Ingredients Screen*, a subsystem of the *Recipe Information Screen*, allows the user to view a list of the ingredients required in the selected recipe. Ingredients may be added, changed or deleted from this screen. It is recommended that changes to existing AFRS Recipes should be done by creating a new recipe with a "Z" prefix. Cost of recipes based on ingredients used and Convenience Food Substitution Lists are also generated from the *Recipe Information Screen*. To access the *Recipe Information Screen* menu selections, the user will select the *Recipes* menu item in the *CFLM Main Application Screen* menu bar. The remainder of this section will describe in detail the *Recipe Information* and *Ingredients Screens'* Command Buttons and step by step instructions for using the *Recipe Information* and *Ingredients Screen*.

4.2 Recipe Information Screen Command Buttons

4.2.1 Select Recipe Category Command Button

Allows the user to identify the part of the meal for which the recipe would be served. Clicking on this button produces a pop-up displaying available meal categories from appetizers to desserts. (Refer to Appendix E for a listing of Recipe Categories.)

4.2.2 Select Product Type Command Button

Allows the user to categorize the type of the ingredient. Recipe items and convenience food products should be categorized based on the main ingredient of the item. However, to maintain consistency with ethnic themes in a menu, the user should categorize such items based on their ethnic (cultural) flavor as opposed to their main ingredient item. This category is required for generating convenience food substitutes. Clicking on this button produces a pop-up displaying available meal types such as pasta items, Asian food, seafood, etc. (Refer to Appendix F for a list of Product Types.)

4.2.3 Select Standard Labor Type Command Button

Allows the user to identify the actual “hands on” time involved with preparing the recipe. (Refer to Appendix C for a complete list of Recipe Labor Codes.) Variations in the preparation time due to progressive cookery, kettle cooked, and more labor intensive recipes such as bakery items are factored into the average time associated with the labor type. Clicking on this button produces a pop-up displaying standard cooking categories; Prepare and Bake, Bake from Scratch, Bake from Mix, etc. Once selected, the estimated time (in minutes) to prepare for 100, 200 and 500 portions are displayed. This data field can be changed as necessary resulting in different time requirements based on the labor type entered. The time displayed is an average time based on test data.

4.2.4 Browse Existing Recipes Command Button

Allows the user to locate and select a specific recipe in the AFRS database. Clicking on this button produces a pop-up displaying all recipes stored in the AFRS database. The user can scroll down the list to select a specific recipe. The user can access a recipe more quickly by pressing the first letter of the recipe prefix (i.e., ‘L’ to scroll quickly to the recipes whose prefix begins with an ‘L’). When a recipe is selected, all associated information is displayed.

4.2.5 Ingredients Command Button

Allows the user to view, enter or change ingredients for a selected or current recipe displayed on the screen. Clicking on this button produces the *Armed Forces Recipe Service - Ingredients Screen*.

4.2.5.1 Armed Forces Recipe Service - Ingredients Screen

Once activated the *Armed Forces Recipe Service - Ingredients Screen* allows the user to view existing ingredients for the selected recipe, add new ingredients, and/or delete ingredients.

4.2.5.1.1 Add Ingredients

File Menu Item --Add - Allows the user to view/select an ingredient from a pop-up and add it to the selected recipe.

4.2.5.1.2 Delete Ingredients

File Menu Item -- Delete - Allows the user to view/select an existing ingredient and delete it from the selected recipe.

4.2.5.1.3 Exit

File Menu Item -- Exit - Allows the user to exit the AFRS Ingredients Screen and return to the *Recipe Information Screen*.

4.2.5.1.4 Browse Command Button

Allows the user to enter amounts required for an ingredient and/or to make changes to existing ingredients. Clicking on this button opens the *Browse Window Screen* displaying ingredient name, quantity per 100 portions, and the unit of measure. The *Browse Window Screen* allows the user to enter amounts required for ingredients for a recipe and for making changes to existing ingredient information. (Whenever an ingredient is added, the user **must** activate the *Browse Window Screen* to add the quantity and unit of measure for the ingredients entered.)

4.2.5.1.5 Return Command Button

Allows the user to return to the *Recipes Information Screen*. Clicking on this button saves the changes made in the *Armed Forces Recipe Service - Ingredients Screen* and returns the user to the *Recipe Information Screen*.

4.2.6 Calculate Cost/100 Command Button

Allows the user to calculate the cost per 100 portions of the recipe based on the ingredients used. Any changes to the ingredients necessitates the need to recalculate this cost to ensure that the cost information displayed reflects those changes. This cost information is considered when the system generates new menus with convenience food substitutes. Clicking on this button will update the cost and display the date of calculation (based on computer's internal calendar). This button will also update the storage requirements and store them in the A_Items database.

4.2.7 Generate Substitution List Command Button

Allows the user to create a list of convenience food substitutes and/or to update an existing one. Clicking on this button links the selected recipe item to convenience food product(s) which may be suitable substitutes. An Information dialog box will appear informing the user that this process may take a few moments. When completed the date the substitution list was generated will be displayed (based on computer's internal calendar). If the user changes the Recipe Category or Product Type associated with the recipe, the Substitution List must be Regenerated.

4.2.8 Display Conv Food Substitutes Command Button

Allows the user to view the list of Convenience Food Substitutes. Clicking on this button produces a pop-up displaying all available substitutes. If a substitute is not available a dialog box will appear stating that the database contains "No Convenience Food Substitutes for the selected recipe."

4.2.9 Save Command Button

When the system is in an append mode, the user will not be allowed to exit until the new information has been saved. The *Save* button allows the user to save the new recipe and return to the edit mode. Changes made while the system is in edit mode will take affect.

4.2.10 Exit Command Button

Allows the user to exit the *Recipe Information Screen* and return to the CFLM DBMS main menu. If the New Recipe has not been previously saved, clicking on this button produces a dialog box stating that the user "Must First Press The Save Button to Store the New Recipe/Product."

4.2.11 Execute Search Command Button

Allows the user to search for recipe items stored in the AFRS database that meet a certain criteria in the Recipe Category and/or Product Type data fields. The *Execute Search* button should only be activated after the **Search** option is selected from the **File** menu item. This button produces a pop-up displaying all the recipe items that matched the search criteria. If there are no matches, a dialog box will appear stating that "No Records Were Found."

4.3 Adding New Recipes

To add a new recipe select the **New** option from the **File** menu item in the menu bar. The *Recipe Information Screen* (Figure 4.3-1) will appear with blank fields.

The screenshot shows a window titled "CONVENIENCE FOOD LOGISTICS MODEL" with a menu bar (File, Print, Help) and a subtitle "ARMED FORCES RECIPE SERVICE". The main area is titled "RECIPE INFORMATION" and contains the following fields and buttons:

- Recipe Number: 300015
- Name of Recipe: BAKED POTATO W HAMBURGER STROGANOFF TOP
- Portion Size: 1 POTATO
- Select Recipe Category: SIDE DISH
- Select Product Type: VEGETABLE ITEM (POTATOES)
- # Ovens Required per 100 Portions: 0.00
- Other Equipment Required: ☐ Fryer ☐ Kettle ☐ Griddle ☐ Mixer
- Select Std. Labor Type: [Empty field]
- Preparation Time (min): 100 Portions: 0, 200 Portions: 0, 500 Portions: 0
- Buttons: Execute Search, Save, Exit
- Buttons on the right: Browse Existing Recipes, Ingredients, Calculate Cost/100 (\$32.90), Date Cost Was Calculated: 03/30/95, Generate Substitution List, Display Conv Food Substitutes, Date Substitution List Was Generated: 04/13/95

The status bar at the bottom shows: A Items, Record: 1700/2112, Exclusive, and Ins. Num.

FIGURE 4.3-1 RECIPE INFORMATION SCREEN

4.3.1 How to Add a New Recipe

1. Enter a six digit Recipe Number. If the recipe number already exists in the database a dialog box will appear prompting the user to enter a different number.
2. Enter Name of Recipe.
3. Enter the AFRS Portion Size.
4. Click on the *Select Recipe Category* button and select appropriate recipe category from the pop-up.
5. Click on the *Select Product Type* button and select appropriate product type from the pop-up.
6. Enter the # of ovens required to prepare 100 portions.
7. To select other equipment required, click on the check box by the equipment required to prepare recipe. An X will appear in the check box by the equipment name when selected; click on the check box again to deselect it.
8. Click on the *Select Std. Labor Type* button and select appropriate labor type from the pop-up. The estimated time required (in minutes) to prepare the recipe as obtained from the database will be displayed. Changing the labor type will result in changes to the time required.
9. Click on the *Ingredients* button to activate the *AFRS - Ingredients Screen* (Figure 4.3.1-1).

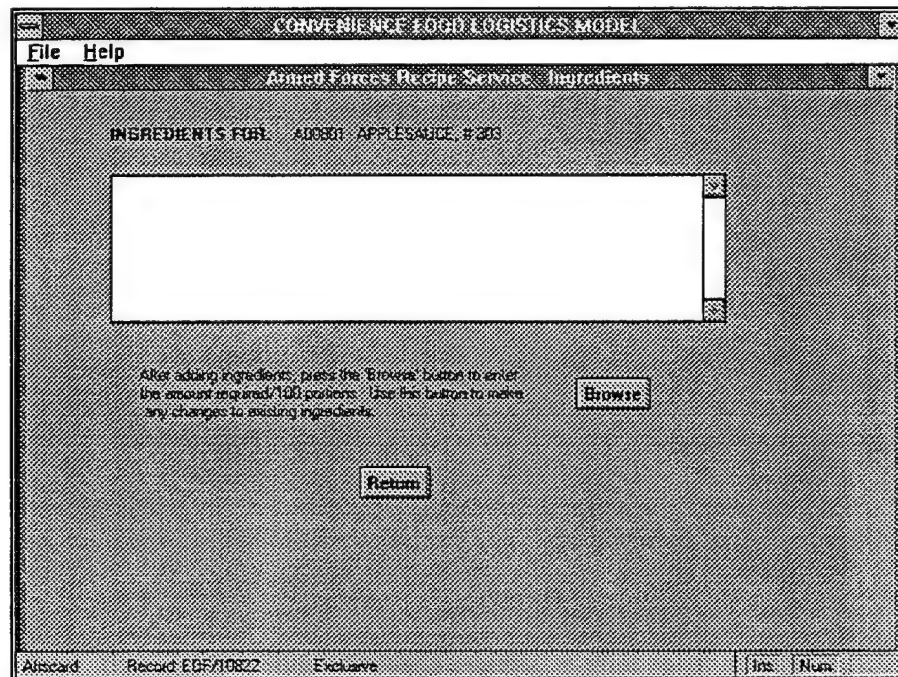


FIGURE 4.3.1-1 AFRS - INGREDIENTS SCREEN

- [illegible]

13. Enter the quantity per 100 portions and unit of measure for each ingredient displayed. If Qty and Unit information is not entered, an error message will appear indicating that the user must enter this information before continuing. Figure 4.3.1-3 provides a list of Unit of Issue Designations, the user can also utilize the *Logistical Information Screen* to find the correct Unit of Measure for an ingredient if unknown.

UNIT OF ISSUE DESIGNATIONS:

BG-----bag	GL-----gallon
BR-----bar	HD-----hundred
BT-----bottle	JR-----jar
BX-----box	LB-----pound
CK-----cake	ME-----meal
CN-----can	MX-----thousand
CO-----container	PG-----package
DZ-----dozen	PZ-----packet
EA-----each	QT-----quart
	RA-----ration

FIGURE 4.3.1-3 UNIT OF ISSUE DESIGNATIONS

14. Select *Exit* from the Document Control menu to return to the *AFRS -Ingredients Screen*.
15. Click on the *Return* button to return to the *Recipe Information Screen*.
16. Click on the *Calculate Cost/100* button to calculate and display the cost/100 portions for this recipe item. There will be a slight delay prior to data appearing in the cost and date fields (based on computer's internal calendar). If the Units of Measure entered in the Ingredients File are incompatible with the Units of Issue in the Logistics File a dialog box will appear instructing the user to revise and rerun. Click on the *OK* button to continue. A message will appear at the top of the screen identifying the problem and correct Unit of Issue.
17. Click on the *Generate Substitution List* button to identify convenience food products which may be substituted for this recipe item. An Information Window dialog box will appear alerting the user that this process may take a few minutes. When completed, the Date Substitution List Was Generated data field is filled in with the current date (based on computer's internal calendar).
18. Click on the *Display Conv Food Substitutes* button to view the Convenience Food Substitute List if desired. A pop-up will appear displaying all available Convenience Food Substitutes for the selected recipe. If there are none, a dialog box will appear stating that "The Database Contains No Convenience Food Substitutes For This Recipe." Click on the *OK* button to continue.
19. Click on the *Save* button to store the New Recipe/Product information and return to the edit mode.
20. Click on the *Exit* button to return to the CFLM DBMS main menu. If the new recipe/product has not been saved a dialog box will appear stating that the user "Must First Press The *Save* button to Store the New Recipe/Product."

4.4 Deleting Recipes

The Delete Recipe function allows the user to select specific recipe items and delete them from the CFLM DBMS. Once this function is performed the deleted item is no longer available for use throughout the CFLM DBMS and may affect the menus previously created. To Delete a recipe item select the **Delete** option from the **File** menu item in the menu bar. A Warning dialog box (Figure 4.4-1) will appear providing the user an opportunity to stop the function if desired. If the *No* button is selected a dialog box will appear notifying the user that the delete command has been canceled.

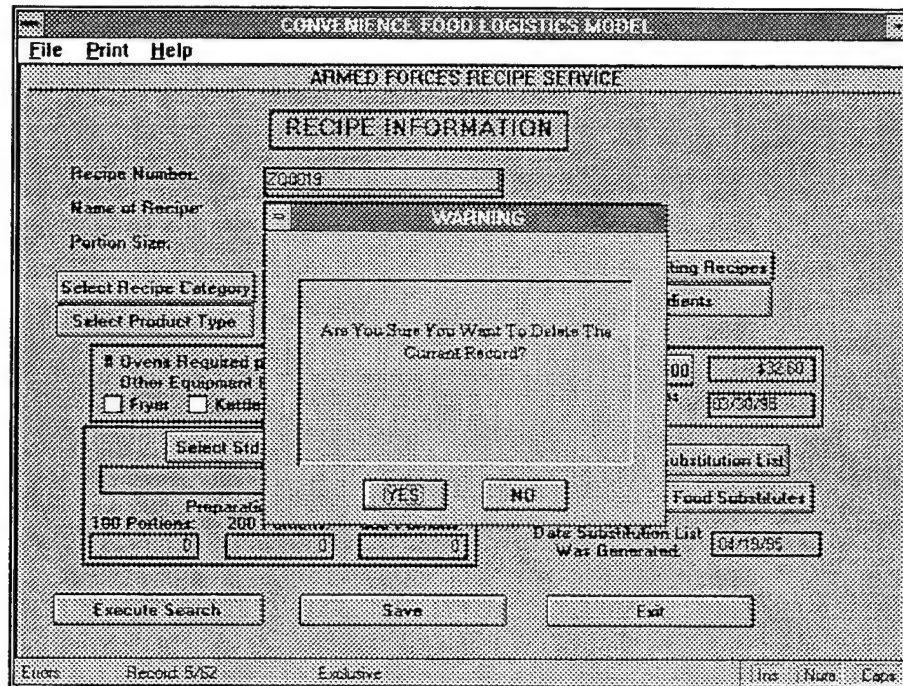


FIGURE 4.4-1 DELETE RECIPE WARNING DIALOG BOX

4.4.1 How to Use the Delete Option

1. Locate the recipe to be deleted using the *Browse Existing Recipe* button, the *Execute Search* button, or the 'Page Up/Page Down' keys to display recipe selected for deletion.
2. Select **Delete** from the **File** menu item.
3. Click on the *Yes* button in the Delete dialog box to confirm deletion.

4.5 Searching for Recipes

Recipe information viewing and manipulation are an important function of the CFLM DBMS. Users are able to quickly view and modify any recipe that has been entered into the CFLM DBMS using the **Search** menu option and *Execute Search* button. This function searches on the Recipe Category and/or the Product Type data fields. These are the only fields that will be accessible when in the search mode. Enter both Recipe Category and Product Types, if possible, to make the search more effective.

4.5.1 How to Use the Search Option

1. Select the **Search** option from the **File** menu item. All data fields on the *Recipe Information Screen* will become blank.
2. Click on the *Select Recipe Category* button and select from the pop-up and/or,
3. Click on the *Select Product Type* button and select from the pop-up.
4. Click on the *Execute Search* button. If there are no matches, a dialog box will appear stating that "No Records Were Found." Click on the *OK* button to continue.
5. A successful search will produce a pop-up of all recipes matching the search criteria. Select the desired recipe and press enter to bring recipe information into view. *Recipe Information Screen* data fields will be filled in with the information from the selected recipe.

4.6 Saving Recipe Information

Once a recipe has been added or changed it is important to perform the **Save** function. The system will not allow the user to exit until a new recipe has been saved. If the user tries to exit the *Recipe Information Screen* prior to initiating the **Save** function, the system will respond with a dialog box informing the user that the **Save** function is required. Click on the *OK* button in the dialog box. The system will return the user to the *Save* button; click on the *Save* button. Once the user starts the process of adding a new recipe the process cannot be aborted. The user must **Save** the recipe then select the **Delete** option from the **File** menu item to remove the recipe from the CFLM DBMS.

4.7 Print Options

The **Print** menu item allows the user to preview and/or print selected information derived from the *Recipe Information Screen*. The user has the option to view the information on the screen and/or on paper. To view the information select the **Print** menu item, select the desired report, and click on the appropriate radio button in the Report Generation dialog box. Selecting Preview sends the report to

the *Page Preview Screen*; Print sends the report to the printer. The *Recipe Information Screen* data is available in three different formats as described below.

4.7.1 Recipe Information

The Recipe Information print option provides the user with a report that displays Recipe Number, Item Name, Recipe Category, Product Type, Portion Size, Cost per 100, Equipment required, Storage requirements, Type of Preparation Required and Ingredients by quantity per 100 portions, and the unit of measure for each selected recipe.

4.7.2 Convenience Food Substitutes

The Convenience Food Substitutes print option provides the user with a report that displays the Item Number and the Product Name of all the convenience food products that have been identified as suitable substitutes for the selected recipe.

4.7.3 Ingredients Not Available To Navy

The Ingredients Not Available To Navy print option provides the user with a report that displays the National Stock Number (NSN) and the Ingredient Name of all the ingredients required for the selected recipe that are not authorized for Navy acquisition (if any).

Authorized changes to the availability of these ingredients are updated through the *Logistical Information Screen* and are reflected in this report.

5. CONVENIENCE FOODS SCREEN

5.1 General Information

The *Convenience Foods Screen* allows the user to perform functions such as add, delete and search for Convenience Food Products. The information stored in the Convenience Food Product database file is used to associate A-Ration recipe items with similar convenience food products. The *Convenience Foods Screen* allows the user to input Convenience Food Product attributes that are then used in the optimization algorithm which takes an A-Ration menu and substitutes with Convenience Food Products when available. The remainder of this section will describe in detail the *Convenience Foods Screen* Command Buttons and step by step instructions for using the *Convenience Foods Screen*.

5.2 Convenience Foods Screen Command Buttons

5.2.1 Category Command Button

Allows the user to identify the part of meal during which the convenience food product would be served. Clicking on this button produces a pop-up displaying available meal categories from appetizers to desserts. (Refer to Appendix E for a listing of Recipe Categories.)

5.2.2 Manufacturer Command Button

Allows the user to view/select the Manufacturers listed in Convenience Food Products database when adding and searching for convenience food products. Clicking on this button produces a pop-up displaying all Manufacturers currently listed in the database. If the manufacturer of a product is not listed, it can be added as described in the following section.

5.2.3 Product Type Command Button

Allows the user to view/select the type of convenience food product. Clicking on this button produces a pop-up displaying available product types such as fruit, egg item, duck item, etc. (Refer to Appendix F for a list of Product Types.)

5.2.4 Select Standard Labor Type Command Button

Allows the user to identify the effort involved in preparation of the Convenience Food Product. Clicking on this button produces a pop-up displaying standard labor codes, i.e., TAS for Thaw and Serve. (Refer to Appendix D for a list of Convenience Food Product Labor Codes.) Once selected, the estimated time required in minutes to prepare for 100, 200 and 500 portions are calculated and displayed. The time displayed is an average time based on test data and may vary accordingly.

5.2.5 Storage Type Command Button

Allows the user to identify the type of storage required for the Convenience Food Product. Clicking on this button produces a pop-up displaying available storage categories (chilled, dry, or freezer).

5.2.6 Calc Reqmts/100 (Calculate Cost and Storage per 100 Portions) Command Button

Allows the user to calculate the cost of the Convenience Food Product based on the AFRS portion size for a similar recipe item. The storage requirements are also calculated. Clicking on this button calculates the cost and storage per 100 portions and displays the cost and storage information, and the date of calculation (based on computer's internal calendar).

Note: if the user has not entered key data used to calculate this information an error message will appear.

5.2.7 Save Command Button

The *Save* button allows the user to save the new Convenience Food Product and return to the edit mode. Any changes made while the system is in an edit mode will take affect. The system will not allow the user to exit until new product information has been saved.

5.2.8 Exit Command Button

Allows the user to exit the *Convenience Foods Screen* and return to the CFLM DBMS main menu. If a New Convenience Food Product information has not been previously saved, clicking on this button produces a dialog box stating that the user "Must First Press The Save Button to Store the New Recipe/Product."

5.2.9 Execute Search Command Button

Allows the user to search for Convenience Food Products stored in the DBMS that meet a certain criteria in the Category, Manufacturer and/or Product Type data fields. These are the only fields that will be enabled when in the search mode. Clicking on this button produces a pop-up displaying all the Convenience Food Products that matched the search criteria. If there are no matches, a dialog box will appear stating that "No Records Were Found."

5.3 Product Attributes

Allows the user to input product attributes required for calculating storage requirements and cost. This information is then used in the optimization algorithm which takes an A-Ration menu and substitutes with Convenience Food Products when available. The portions and servings per case are adjusted to reflect the AFRS portion sizes. The user enters the data for the convenience food product as indicated by the manufacturer (e.g. Manufacturer Suggested Portion, Number of Servings Per Case (as per Manufacturer), Cost Per Case, Storage (cubic feet) Required Per Case, and the Portion Size for a Similar AFRS Recipe Item. The model will adjust the servings per case based on this information after checking for compatible units. All product attributes displayed in Figure 5.3-1 below are mandatory data fields. An error message will appear informing the user which data field needs to be entered if omitted.

Item Number: ST00002917	
Portion Size (Amt/Person)	
Manufacturer Suggested	4.00 OZ
AFRS Portion	6.00 OZ
Servings/Case	58
Case Pack	4/58 OZ
Case Weight Net (lb)	14.50
Case Weight Gross (lb)	16.11
Case Vol (cu ft)	0.58
Cost/Case	\$31.15

FIGURE 5.3-1 PRODUCT ATTRIBUTES

- Portion Size (Amount/Person) - Manufacturer Suggested

This data field allows the user to enter the Manufacturer's suggested portion size for the convenience food product being added (i.e., 4.00 OZ).

- Portion Size (Amount/Person) - AFRS Portion

This data field allows the user to enter the AFRS's suggested portion size for the convenience food product being added (i.e., 6.00 OZ).

- Servings per Case

This data field allows the user to enter the amount of the manufacturer suggested servings per case that the convenience food product is packaged (i.e., 58 servings in this case).

- Case Pack

This data field is used to store the manufacturer's format indicating how the item is packaged (i.e. 4/58 OZ for 58 - 4 OZ servings/case). This field is not mandatory.

- Case Weight Net

This data field allows the user to enter the weight of the actual product in the case (i.e., if the case pack is 4/58 oz packs the net weight would be 4*58 oz or 14.50 lbs)

- Case Weight Gross

This data field allows the user to enter the weight of the product and the weight of the case and packaging materials (i.e., if the case pack is 4/58 oz packs the net weight would be 4*58 oz or 14.50 lbs plus the weight of packaging which may increase this value to 16.11 lbs, as shown).

- Case Vol (cu ft)

This data field allows the user to enter the volume of the case in cubic feet (i.e., .58 cubic feet).

- Cost/Case.

This data field allows the user to enter the cost per case (i.e., \$31.15).

5.3.1 How to Add New Convenience Food Products

To add a new Convenience Food Product select the **New** option from the **File** menu item in the menu bar. All data fields in the *Convenience Food Screen* (Figure 5.4-1) will become blank.

FIGURE 5.4-1 CONVENIENCE FOOD SCREEN

1. Click on the *Category* button and select appropriate category from the pop-up.
2. Click on the *Manufacturer* button and select appropriate manufacturer from the pop-up. If this is a new manufacturer click outside the pop-up and proceed to the Enter New Manufacturer Below data field.

3. Click on the Enter New Manufacturer Below data field and enter the New Manufacturer.
4. Click on the Prefix for New Item Number data field and enter two identifying letters. If the letters already exist a dialog box stating "This Prefix Is Used To Identify Another Manufacturer. Please Select Another Prefix." will appear. Click on the *OK* button to continue and enter a different Prefix. Press the 'enter' key.
5. Click on the *Product Type* button and select appropriate type from the pop-up.
6. Enter the Manufacturer's Product Code. The product code will appear in the upper right hand corner of the screen preceded by the system's manufacturer code and padded with '0s' if necessary to create a 10 digit code required by the system.
7. Enter Product Name.
8. Enter the # of ovens required to prepare 100 portions.
9. To select other equipment required, click on the check box by the equipment required to prepare the convenience food product. An X will appear in the check box by the equipment name when selected; click on the check box again to deselect.
10. Click on the *Select Std. Labor Type* button and select appropriate labor type from the pop-up. The time required (in minutes) to prepare the convenience food product will be calculated and displayed. Changing the labor type will result in changes to preparation time.
11. Enter all the product attributes. The user will be prompted to complete all mandatory data fields (such as portions/cost, etc.) and will be notified if incompatible or incomplete data (such as the missing portion information) is entered. The *Calculate Req/100* function should be performed if any changes are made to these data fields.
12. Click on the *Storage Type* button and select appropriate type from the pop-up.
13. Click on the *Calculate Req./100* button to calculate and display the cost/100 portions for this convenience food product based on AFRS portion amounts. There will be a slight delay prior to data appearing in the cost and date fields. If any product attribute information is missing or incorrect, a dialog box will appear notifying the user. Click on the *OK* button to continue. Once the error has been corrected, proceed with the calculation function.
14. Enter any comments in the Comment data field as desired. Comments can be up to 30 alpha/numeric characters.
15. Click on the *Save* button when all data has been properly entered. The system is returned to the 'Edit' mode and is ready for a new option.

5.4 Deleting Convenience Food Products

The Delete Convenience Food Products function allows the user to select specific Convenience Food Products and delete them from the CFLM DBMS. Once this function is performed the deleted item is no longer available for use throughout the CFLM DBMS and may affect previously generated menus. To Delete a Convenience Food Product select the **Delete** option from the **File** menu item in the menu bar. A Warning dialog box will appear providing the user an opportunity to stop the function if desired. If the *No* button is selected, a dialog box will appear notifying the user that the delete command has been canceled.

5.4.1 How to Use the Delete Option

1. Use the 'Page Up/Page Down' keys or the Search option (described below) to display the convenience food product selected for deletion.
2. Select **Delete** from the **File** menu item.
3. Click on the *Yes* button in the Delete dialog box to confirm deletion.

5.5 Searching for Convenience Food Products

This function allows the user to locate items quickly to obtain information, to delete items, etc. The searches are performed on the Convenience Food Product Category, Manufacturer and/or Product Type data fields. These are the only fields that will be enabled when in the search mode. Enter data in all three data fields, if possible, to make the search more effective.

5.5.1 How to Use the Search Option

1. Select the **Search** option from the **File** menu item. All data fields on the *Convenience Food Product Screen* will become blank.
2. Click on the *Category* button and select from the pop-up and/or,
3. Click on the *Manufacturer* button and select from the pop-up and/or,
4. Click on the *Product Type* button and select from the pop-up.
5. Click on the *Execute Search* button. If there are no matches, a dialog box will appear stating that "No Records Were Found." Click on the *OK* button to continue.
6. A successful search will produce a pop-up displaying all products matching the search criteria. Select the desired convenience food product. *Convenience Food Screen* data fields will be filled with the information from the selected convenience food product.

5.6 Saving Convenience Food Product Information

Once a Convenience Food Product has been added or changed it is important to perform the Save function. The system will not allow the user to exit until the new information has been saved. If the user tries to exit the *Convenience Food Product Screen* prior to initiating the Save function, the system will respond with a dialog box informing the user that the Save function is required. Click on the *OK* button in the dialog box. The system will return the user to the *Save* button. Click on the *Save* button. The user can then use the Delete function to delete the information if desired.

5.7 Print Options

The **Print** menu item allows the user to preview and/or print selected information derived from the *Convenience Food Product Screen*. The user has the option to view the information on the screen and/or on paper. To view the information select the **Print** menu item, select the **Print Convenience Food Product Information** option, and click on the appropriate radio button in the Report Generation dialog box. Selecting *Preview* sends the report to the *Page Preview Screen*; *Print* sends the report to the printer.

6. MENU CREATION SCREEN

6.1 General Information

The *Menu Creation Screen* allows the user to Create New Menus, Select and Modify existing Menus, and Delete selected Menus from the CFLM DBMS. In working with the *Menu Creation Screen* the user can select any menu file stored in the CFLM DBMS with the same structure as the *Menu Creation Screen* (i.e., as created using the Menu Creation Screen). The default directory is 'C:\cflm\MENUS\.' However, if the desired menu file is in a different directory or on a different drive, the user can access it by entering the information in the Open dialog box. This dialog box is displayed after the **Select Menu** option is chosen from the **File** menu item in the menu bar. Once the menu is selected the Menu File Name: data field, located at the top of the *Menu Creation Screen*, is filled in with the menu name and directory. This field becomes blank when the menu is closed. The remainder of this section will describe in detail the *Menu Creation Screen*; Command Buttons and step by step instructions for using the *Menu Creation Screen*.

6.2 Menu Creation Screen Command Buttons

6.2.1 Add Recipe Command Button

Allows the user to add a record to the selected menu file. Clicking on this button will cause the Recipe Selected display box to become blank. The day and meal fields will inherit the contents of the previous record. This avoids having the user re-enter the same data for multiple recipes entered for the same meal. However, these data fields can be modified. To enter a recipe, the user must then press the *Select Recipe* button. The exception to this process is in the first record of a new menu. Clicking this button will add a new record, and display the pop-up of recipes shown when *Select Recipe* button is clicked.

6.2.2 Select Recipe Command Button

Allows the user to view/select and change recipes in existing menus. The default selection rate for each menu item is displayed and may be changed, if desired. Clicking on this button produces a pop-up displaying all the recipes stored in the CFLM DBMS. Once selected the recipe replaces the one displayed in the Recipe Selected data field (versus adding another recipe to the menu as in the Add Recipe function explained above). If the intention is to add a recipe versus replace an existing one, the user must first use the *Add Recipe* button.

6.2.3 Delete Recipe Command Button

Allows the user to delete a recipe from the selected menu. Clicking on this button produces a Warning dialog box allowing the user to cancel or continue the deletion process. Selecting the *Yes* button deletes the selected recipe from the selected menu.

6.2.4 View Menu Command Button

Allows the user to view all menu items stored in the currently selected menu. Prior to clicking on this button the user must first select a menu using the **Select Menu** option from the **File** menu item. Clicking on this button produces a pop-up displaying all the menu items by day of menu cycle (1-35) and category (breakfast, lunch, dinner, midrats).

6.2.5 Save Menu Command Button

Allows the user to save the new or changed menu to an existing file or to a new file. When adding a new menu, clicking on this button produces a dialog box prompting the user to "Enter a File Name for the Menu File Created." Click on the *OK* button to continue and enter a new file name in the Filename data field. When working with an existing file, clicking on this button produces a Warning dialog box asking the user to "Save Changes To Current Menu File? Select 'No' To Save Changes To New File Menu." If the No option is selected, the system prompts the user to enter a new filename.

6.2.6 Close Menu Command Button

Allows the user to close the menu file. Clicking on this button produces a dialog box prompting the user to "Select from the Following Options: Save to Existing File, Save to New File, or Close without Saving."

6.2.7 Exit Command Button

Allows the user to exit the *Menu Creation Screen* and return to the CFLM DBMS main menu. If the new or changed menus have not been saved and closed, clicking on this button produces a dialog box stating "A Menu File Is Open Press 'Close Menu' Before Leaving Screen Or Creating A New Menu File."

6.2.8 Select a Meal Command Button

Allows the user to identify the meal category for the recipe item (breakfast, lunch, dinner, midrats). Clicking on this button produces a pop-up displaying all the meal categories available. The category selected is displayed to the right of this button.

6.3 Creating a New Menu

The Create Menu option allows the user to develop a new menu file. To achieve optimum utility of the CFLM DBMS features, the user developing the new menu needs to be aware that the ship information is based on a 35 day replenishment cycle. If a user enters a menu for less than 35 days, when the storage availability of the ship is compared to the storage requirements of the menu, the results may be misleading. If the ship has a 21 day replenishment cycle as opposed to 35 days, and the storage on the ship is greater than the menu requires, the menu is feasible. However, if the replenishment cycle is 35 days and the menu entered is for less than the 35 days with storage requirements equal to the ships' storage availability, the menu may not be feasible. To create a new menu, select the **Create Menu** option from the **File** menu item. The *Menu Creation Screen* (Figure 6.2-1) will appear with blank fields.

CONVENIENCE FOOD LOGISTICS MODEL

File Print Help

MENU CREATION SCREEN

Menu File Name

Day (Indicate # of day within the Menu Period)

Select Meal

Recipe Selected

Selection Rate (%)

Add Recipe

Select Recipe

Delete Recipe

View Menu

Save Menu

Close Menu

Exit

If Creating A New Menu, Enter File Name Below.
Note: Filenames must be < 8 characters in length

Platoon Record Name Exclude File Name

FIGURE 6.2-1 MENU CREATION SCREEN

6.3.1 How to Create a New Menu

1. Enter the # of the day within the Menu Period in the Day data field (i.e., '1' for the first day of the menu cycle).
2. Click on the *Select Meal* button and select appropriate meal category.
3. Click on the *Add Recipe* button and select desired recipe. Enter the first letter of the recipe number to quicken the search if number is known.
4. Enter the appropriate Selection Rate (%) if the default is not desired.

5. Repeat steps 1-4 until menu requirements have been met. Note that the Day within the Meal Period and the Select Meal data fields remain when adding new items to avoid repetitive operations. These values can be changed as necessary.
6. Click on the *View Menu* button to display New Menu, if desired.
7. Click on the *Save* button to store the New Menu. An Information dialog box will appear instructing the user to "Enter a File Name For The Menu File You Created." Click on the *OK* button to continue.
8. Enter the Path and the New File name in the File Name data field. The file name must be less than or equal to 8 characters in length. Once saved, the menu will now appear in the Select Menu Open dialog box.
9. Click on the *Close Menu* button.

6.4 Deleting a Menu

The Delete Menu function allows the user to select specific menus and delete them from the CFLM DBMS. Once this function is performed the deleted menu is no longer available for use throughout the CFLM DBMS. To Delete a Menu select the **Delete** option from the **File** menu item in the menu bar. The Menu Open dialog box will appear allowing the user to select the specific menu for deletion. Once selected, a Warning dialog box will appear providing the user an opportunity to stop the function if desired. If the *No* button is selected a dialog box will appear notifying the user that the "Menu File Was Not Deleted." A menu can also be deleted from the File Manager by double clicking on the Menus directory, selecting the appropriate Menu and pressing the Delete key.

6.4.1 How to Use the Delete Option

1. Select the **Delete** option from the **File** menu item.
2. Click on the desired menu in the Open dialog box then click on the *Open* button.
3. Click on the *Yes* button in the Warning dialog box to confirm deletion.

6.5 Print Options

The **Print** menu item allows the user to preview and/or print selected information derived from the *Menu Creation Screen*. The user has the option to view the information on the screen and/or on paper. To view the information the user will choose the **Select Menu** option from the **File** menu item (select the desired menu and click on the *Open* button in the Open dialog box), select the **Print** menu item from the menu bar, select the desired report, and click on the appropriate radio button in the Report Generation dialog box. Selecting Preview sends the report to the *Page Preview Screen*; Print sends the report to the printer. The *Menu Creation Screen* data is available in four different formats as described below. With the exception of the Print Current Menu report, each of these are standard menus created for taking into account such items that would not be substituted. A user is able to create their own salad bar and speedline menus but these would not change or replace the system's menus for these items.

6.5.1 Print Current Menu

The Print Current Menu print option provides the user with a report that displays the Day, Meal, Recipe No. and Item Name for all recipes in the selected menu.

6.5.2 Print Generic Salad Bar Menu

The Print Generic Salad Bar Menu print option provides the user with a report that displays the standard items generally found in a ship's Salad Bar. This menu is used to account for the cost and storage requirements associated with Salad Bar items. These items would most likely not be substituted with convenience food products, but are still required for logistical calculations.

6.5.3 Print Generic Speedline Menu

The Print Generic Speedline Menu option provides the user with a report that displays the standard items generally found in a ship's Speedline. This menu is used to account for the cost and storage requirements associated with Speedline items. These items would most likely not be substituted with convenience food products, but are still required for logistical calculations.

6.5.4 Print Miscellaneous Items Menu

The Print Miscellaneous Items Menu option provides the user with a report that displays miscellaneous items (i.e., condiments, beverages) that are available at meals. This menu is used to account for the cost and storage requirements of the miscellaneous items. These items would most likely not be substituted with convenience food products, but are still required for logistical calculations.

7. LOGISTICAL INFORMATION SCREEN

7.1 General Information

The *Logistical Information Screen* allows the user to update the Logistical Database file containing the food products available through the Group 89 Federal Stock Catalog (FSC), June 1993 Price List of 1 April through 30 June 1994. Any items added or deleted from this screen may affect AFRS recipes previously entered. After completing the *Logistical Information Screen* it may be necessary to return to the *Recipes Screen* and make the appropriate changes (i.e., add new ingredient to an existing recipe, find a substitute ingredient for a deleted ingredient, etc.). The remainder of this section will describe in detail the *Logistical Information Screen* Command Buttons and step by step instructions for using the *Logistical Information Screen*.

7.2 Logistical Information Screen Command Buttons

7.2.1 Storage Command Button

Allows the user to choose the storage type for selected NSN item. Clicking on this button produces a pop-up displaying the types of storage available (Chilled, Dry, Freezer). The storage type selected will appear to the right of the *Storage* button.

7.2.2 Acq. Advice Code Command Button

Allows the user to identify the Acquisition Advice Code that applies to added item according to the FSC. Clicking on this button produces a pop-up displaying the different types of acquisition codes available (i.e., Local Purchase, DOD Integrated Material).

7.2.3 Usage Mgmt Codes Command Button

Allows the user to identify the type of usage for the added item according to the FSC. Clicking on this button produces a pop-up displaying the different types of usage codes available (i.e., Afloat Only, Submarines Only, Controlled Item).

7.2.4 Browse Existing Items Command Button

Allows the user to locate and select a specific item in the logistical database file. Clicking on this button produces a pop-up displaying all items stored in the logistical database in NSN order. The user can scroll down the list to select a specific NSN item. When an NSN item is selected all information associated with that item is displayed.

7.2.5 Execute Search Command Button

Allows the user to search for items stored in the Logistical Information database that meet a certain criteria in the Description (Keyword), Storage Type, and the Perishable or Semi-Perishable data fields. The *Execute Search* button should only be activated after the **Search** option is selected from the **File** menu item. Clicking on this button produces a pop-up displaying all the Food Product items that matched the search criteria. If there are no matches, a dialog box will appear stating that "No Records Were Found."

7.2.6 Recipes Command Button

Allows the user to view existing recipes that contain selected NSN items. Clicking on this button produces a pop-up displaying all recipes which require the selected NSN item and, therefore, are the recipes that would be impacted if the NSN item was not available. If there is an overstock of a particular item, the user could see what recipes contain this ingredient and incorporate them in new menus.

7.2.7 Save Command Button

The *Save* button allows the user to save the new NSN items and return to the edit mode. Any changes made while the system is in an edit mode will take effect.

7.2.8 Exit Command Button

Allows the user to exit the *Logistical Information Screen* and return to the CFLM DBMS main menu.

7.3 Adding Federal Stock Catalog Items

To add Federal Stock Catalog Items to the CFLM DBMS select the **New** option from the **File** menu item in the menu bar. All data fields in the *Logistical Information Screen* (Figure 7.3-1) will become blank. The required *Logistical Information Screen* data fields are the NSN, Description, Storage, Unit Price, Gross lbs, Net lbs, Vol (cu ft), Units per Case, Units Issued by, and the Conversion Factor.

CONVENIENCE FOOD LOGISTICS MODEL

File Print Help

Logistical Information

NSN:

Navy Code (FIC)

Description:

Storage:

Check ☐ Perishable
One ☐ Semi-Perishable

Fiscal Month: Fiscal Year: Unit Price:
Price Month: Price Year:

Acq. Advice Code: Action Code:

Usage Mgmt Codes:

Index No:

Case Lot Data

Gross lbs:	0
Net lbs:	0
Vol (cu ft):	0.00
Length:	0.0
Width:	0.0
Height:	0.0
Pallets:	0
Units/case:	0
Units/pallet:	0
Units/Issued by:	0.000
Conversion Factor:	0.000

Browse Existing Items Execute Search

Recipes Save Exit

Log file Record: 1921/1921 Exclusive Item Num

FIGURE 7.3-1 LOGISTICAL INFORMATION SCREEN

7.3.1 How to Add Federal Stock Catalog Items

1. Enter a 13 digit National Stock Number in the NSN data field. If the NSN is less than or equal to 13 an error message dialog box will appear stating that "The Length of The National Stock Number Must be 13 Digits." Click the *OK* button to continue.
2. Enter a description of the item in the Description data field. Descriptions can be up to 50 alpha/numeric characters and should contain keywords.
3. Enter a two digit code in the Food Identification Code (FIC) (Navy items only) data field, if available.
4. Click on the *Storage* button and select appropriate storage type from the pop-up.
5. Check the box labeled Perishable or Semi-Perishable, if applicable.
6. Enter the Fiscal Month, Year, Price Month, Year and Unit Price.
7. Click on the *Acq. Advice Code* button and select appropriate code. If the code is unknown the user can tab over to the next data field or select the blank line in the pop up.
8. Click on the *Usage Mgmt Codes* button and select appropriate code. If the code is unknown the user can tab over to the next data field or select the blank line in the pop up.
9. Enter Action Code. (See Figure 7.3-2 for a list of Action Codes.)

ACTION CODES	
A (ADD)	Indicates NSN not included in a previous publication.
B (REINSTATE)	Indicates that the NSN previously deleted from a publication is being reinstated.
C (CHANGE)	Indicates a change in descriptive and/or management data since the previous publication. An asterisk is placed to the right of the element(s) of management data that has changed.
D (DELETED)	Deletions are not cited in the Revision.

FIGURE 7.3-2 ACTION CODES

10. Enter five digit Index Number.
11. Enter known data for the Case Lot Data.
12. Click on the *Save* button.
13. If desired, return to the *Recipe Information Screen* and replace new item for a similar ingredient in an existing recipe.
14. Adding new items, increases the choice of ingredients to select from when creating new recipes or modifying existing ones. To incorporate the new ingredient in a recipe, the user must return to the *Recipe Information Screen*, search for the desired recipe, activate the AFRS Ingredients Screen and add the new item.

7.4 Deleting Federal Stock Catalog Items

To delete a Federal Stock Catalog Item select the **Delete** option from the **File** menu item in the menu bar. When an item is deleted it may affect AFRS recipes previously entered. Use the *Recipes* button to view any recipes that will be affected prior to deleting the item. Upon deletion return to the *Recipes Information Screen* and select replacement ingredients for the deleted item.

7.4.1 How to Delete Federal Stock Catalog Items

1. Use the '*Page Up/Page Down*' keys or the *Execute Search* button to display the Federal Stock Catalog Item selected for deletion. The record displayed is the record that will be deleted.
2. Click on the *Recipes* button to view affected recipes, if desired. (Click outside of the pop-up to close it.) If there are no recipes associated with the selected item a dialog box will appear stating that "There are No Recipes Associated with This Item." Click on the *OK* button to continue.
3. Select **Delete** from the **File** menu item.
4. Click on the *Yes* button in the dialog box to confirm deletion.

7.5 Searching for Logistical Information

This function searches on the Description, Storage Type, and Perishable or Semi-Perishable data fields. These are the only fields that will be enabled when in the search mode. Enter all three data fields, if possible, to make the search more effective.

7.5.1 How to Use the Search Option

1. Select the **Search** option from the **File** menu item. All data fields on the *Logistical Information Screen* will become blank.
2. Enter a keyword in the Description data field and/or,
3. Click on the *Storage* button and select type of storage from the pop-up and/or,
4. Click on either the Perishable or Semi-Perishable check box.
5. Click on the *Execute Search* button. If there are no matches, a dialog box will appear stating that "No Records Were Found." Click on the *OK* button to continue.
6. A successful search will produce a pop-up displaying all NSN items that matched the search criteria. Select desired Food Product. *Logistical Information Screen* data fields will be filled in with the information from the selected food product.

7.6 Print Options

The **Print** menu item allows the user to preview and/or print selected information derived from the *Logistical Information Screen*. The user has the option to view the information on the screen and/or on paper. To view the information the user will select the **Print** menu item from the menu bar, select the desired report, and click on the appropriate radio button in the Report Generation dialog box. Selecting Preview sends the report to the *Page Preview Screen*; Print sends the report to the printer. The *Logistical Information Screen* data is available in two different formats as described below.

7.6.1 Print Logistical Information for Item

The Print Logistical Information for Item print option provides the user with a report that displays all the Logistical Information for the selected Item by NSN.

7.6.2 Print List of Recipes with this Ingredient

The Print List of Recipes with this Ingredient print option provides the user with a report that displays all recipes in the CFLM DBMS that require the selected ingredient by NSN and Ingredient Name. If the ingredient selected has no associated recipe, a dialog box will appear stating "There are No Recipes Associated With This Item" and the print function will be canceled.

8. SHIP INFORMATION SCREEN

8.1 General Information

The *Ship Information Screen* allows the user to enter all pertinent ship information for ship classification, ship type and class of ship. The ship's complement, mess information, galley equipment, and total available storage data for the general mess are used to compare the results of logistical calculations for selected A-Ration menus with the actual ship attributes. The remainder of this section will describe in detail the *Ship Information Screen* Command Buttons and step by step instructions for using the *Ship Information Screen*.

8.2 Ship Information Screen Command Buttons

8.2.1 Classification of Ship Command Button

Allows the user to view/select different Ship Classifications stored in the CFLM database. (Refer to Appendix G for a listing of Ship Classifications, Type, Class Codes.) Clicking on this button produces a pop-up displaying the different ship classifications stored in the CFLM DBMS.

8.2.2 Type w/in Classification Command Button

Allows the user to view/select the different types of ships stored in the CFLM database. (Refer to Appendix G for a listing of Ship Classifications, Type, Class Codes.) Clicking on this button produces a pop-up displaying the types of ships associated with the ship classification previously selected.

8.2.3 Class of Ship Command Button

Allows the user to view/select the different classes of ships stored in the CFLM database. (Refer to Appendix G for a listing of Ship Classifications, Type, Class Codes.) Clicking on this button produces a pop-up displaying the classes of ships associated with the classification and type previously selected.

8.2.4 Browse Existing Ships Command Button

Allows the user to view/select information on specific ships stored in the CFLM database. Clicking on this button produces a pop-up displaying all the ships stored in the CFLM database. The user can scroll down the list to select a specific ship. The user can access a ship more quickly by pressing the first letter of the ship's Hull # (i.e., 'F' to scroll quickly to the FFG 7 Oliver Hazard Perry). When the ship is selected all associated information is displayed.

8.2.5 Execute Search Command Button

Allows the user to search for ship information stored in the AFRS database that meets a certain criteria in the Ship Classification, Type, and Class of Ship data fields. The Ship Classification data field should be selected prior to entering the other two search data fields. However, these three criteria can be entered individually as search criteria. Clicking on this button produces a pop-up displaying all the ships that matched the search criteria. If there are no matches, a dialog box will appear stating that "No Records Were Found."

8.2.6 Save Command Button

The *Save* button allows the user to save the new Ship Information and return to the edit mode. Any changes made while the system is in an edit mode will take affect.

8.2.7 Exit Command Button

Allows the user to exit the *Ship Information Screen* and return to the CFLM DBMS main menu.

8.3 Adding New Ship Information

To add a ship to the CFLM DBMS select the **New** option from the **File** menu item in the menu bar. All data fields in the *Ship Information Screen* (Figure 8.3-1) will become blank.

CONVENIENCE FOOD LOGISTICS MODEL

File Print Help

Ship Information

Classification of Ship: []

Type w/in Classification: []

Class of Ship: []

Hull No. of Ship: []

Name of Ship: []

Ship's Maximum Complement

Officers:	[]
CPO:	[]
Enlisted:	[]

Check All Available Messes

☐ Wardroom

☐ Chief's Mess

☐ General Mess

General Mess (Galley Eq)

Ovens:	[]
Refriger:	[]
Freezer:	[]
Griddle:	[]
Mixer:	[]

Total Available Storage

Dry:	[]
Chill:	[]
Freezer:	[]

Comments: []

Browse Existing Ships

Execute Search

Save

Exit

Ships Record 64/64 Exclusive Int Num Cases

FIGURE 8.3-1 SHIP INFORMATION SCREEN

8.3.1 How to Add New Ship Information

1. Click on the *Classification of Ship* button and select appropriate ship classification from the pop-up list.
2. Click on the *Type w/in Classification* button and select appropriate ship type from the pop-up list.
3. Click on the *Class of Ship* button and select appropriate class of ship from the pop-up list.
4. Enter the Hull No. of Ship data field. Type in the given letters again with the appropriate number.
5. Enter the Name of Ship data field.
6. Enter the Ship's Complement data fields. Include all personnel such as Marines and Airwing, if applicable. Once this data field is entered the Total Available Storage associated with the general mess will be calculated and displayed based on the Ship's Complement entered.
7. Check all Available Messes that apply.
8. Enter the General Mess (Galley Eq) data fields.
9. Enter the Comment data field, if desired.
10. Click on the *Save* button.

8.4 Deleting Ship Information

The Delete Ship Information function allows the user to select a specific ship and delete the ship and associated attributes from the CFLM DBMS. To Delete Ship Information, select the **Delete** option from the **File** menu item in the menu bar. A Warning dialog box will appear providing the user an opportunity to stop the function if desired. If the *No* button is selected a dialog box will appear notifying the user that the delete command has been canceled.

8.4.1 How to Delete Ship Information

1. Use the '*Page Up/Page Down*' keys or the *Execute Search* button to display the Ship Information selected for deletion.
2. Select the **Delete** option from the **File** menu item.
3. Click on the *Yes* button in the Warning dialog box to confirm deletion.

8.5 Searching for Ship Information

Users are able to quickly view and modify Ship Information that has been entered into the CFLM DBMS using the **Search** menu option and *Execute Search* button. This function searches on the Classification of Ship, Type W/in Classification and Class of Ship data fields. The user can use one, two, or all three of these data fields to locate a particular ship. If all three attributes are used, the Ship Classification should be selected prior to the Type W/in Classification. Similarly, the Type W/in Classification should be selected prior to Class of Ship data field.

8.5.1 How to Use the Search Option

1. Select the **Search** option from the **File** menu item. All data fields on the *Ship Information Screen* will become blank.
2. Click on the *Classification of Ship* button and select appropriate ship classification from the pop-up list.
3. Click on the *Type w/in Classification* button and select appropriate ship type from the pop-up list, if known.
4. Click on the *Class of Ship* button and select appropriate class of ship from the pop-up list, if known.
5. Click on the *Execute Search* button. If there are no matches, a dialog box will appear stating that "No Records Were Found." Click on the *OK* button to continue.
6. A successful search will produce a pop-up displaying ships matching the search criteria. Select the desired Ship. The *Ship Information Screen* data fields will be filled with the information from the selected ship.

8.6 Print Options

The **Print** menu item allows the user to preview and/or print selected information derived from the *Ship Information Screen*. The user has the option to view the information on the screen and/or on paper. To view the information the user will select the **Print** menu item from the menu bar, select the **Print Ship Information** option, and click on the appropriate radio button in the Report Generation dialog box. Selecting Preview sends the report to the *Page Preview Screen*; Print sends the report to the printer.

9. OPTIONS - RUN LOGISTICAL INQUIRY A-RATIONS

9.1 General Information

The Options Run Logistical Inquiry A-Rations *Logistical Inquiry A-Rations Screen* allows the user to view logistical information associated with specific ships for selected menus. The remainder of this section will describe in detail the *Logistical Inquiry A-Rations Screen* Command Buttons and step by step instructions for using the *Logistical Inquiry A-Rations Screen*.

9.2 Logistical Inquiry A-Rations Screen Command Buttons

9.2.1 Select Menu Command Button

Allows the user to view/select all menus stored in the CFLM DBMS. Clicking on this button produces the Open dialog box listing all available menus. Once selected, the menu name and file location are displayed in the Select Menu data field.

9.2.2 Select Ship

Allows the user to view/select the ships stored in CFLM DBMS. Clicking on this button produces a pop-up displaying all available ships. Once selected, the Ship's Name, Hull No., and Ship's Complement (Enlisted Only) data fields are entered.

9.2.3 Calculate Logistics

Allows the user to view the portions, ingredient amounts, labor, equipment, etc. required for a given menu based on specified data. Clicking on this buttons starts the calculating process. The results may be viewed by selecting from the Reports option.

9.2.4 Close Menu Button

Allows the user to close the currently displayed menu and perform a different function. Clicking on this button closes the current menu and clears the data fields.

9.2.5 Exit Command Button

Allows the user to exit the *Logistical Inquiry A-Rations Screen* and return to the CFLM DBMS main menu.

9.3 New Inquiry

The **New Inquiry** option allows the user to enter the information in the *Logistical Inquiry A-Rations Screen* (Figure 9.3-1) required for the various calculations. To run a new inquiry select the **New Inquiry** option from the **Inquiry** menu item in the menu bar.

CONVENIENCE FOOD LOGISTICS MODEL

File Inquiry Reports Help

Logistical Inquiry A-Rations

Select Menu:

Select Ship:

Hull No.

Ship's Complement (Enlisted Personnel Only) ☐

Enter the % of the Total # of Customers Who Subsist From The Speedline (If Available)

Visit The Salad Bar (If Available)

All Ranks Subsist From the General Mess (T or F) ☐

Ship is at Sea (T or F) ☐

Attendance Rates

Breakfast	0.0
Lunch	0.0
Dinner	0.0
Mid-Rations	0.0

Weekend Rates

Breakfast	0.0
Lunch	0.0
Dinner	0.0
Mid-Rations	0.0

User Input and Logistical Calculations Can Be Saved. Enter File Names Below (After Logistics Have Been Calculated):

User Input: Logistical Data (Ingredients): Daily Menu w/Requests:

Calculate Logistics Close Menu Exit

0 records copied Jrs Num

FIGURE 9.3-1 LOGISTICAL INQUIRY A-RATIONS SCREEN

9.3.1 How to Run a New Inquiry

1. Select the **New Inquiry** option from the **Inquiry** menu item in the menu bar. (System will prompt the user to Select a Menu)
2. Double-click on the *Select Menu* button.
3. Select desired Menu from the Open dialog box. The user can select from other directories, but the Menu File must have been created using the CFLM DBMS. Click on the *Open* button.
4. Click on the *Select Ship* button and select appropriate ship from the pop-up.
5. Enter the % of the Total # of Customers Who Subsist from the Speedline (If Available) data field.

6. Enter the % of the Total # of Customers Who Visit the Salad Bar data field if default value is incorrect. Enter 0 (zero) if no Salad Bar is available.
7. Enter T or F in the All Ranks Subsist from the General Mess data field.
8. Enter T or F in the Ship is at Sea data field, selecting F would infer that the ship was inport. (Once entered the Attendance Rates data fields are filled in with the default rates.)
9. Enter the Attendance Rates data fields if different from defaults.
10. Click on the *Calculate Logistics* button. The system produces an Information dialog box notifying the user that "The System Is Calculating the Logistical Data. It Will Take a Few Moments. Please Wait..." When the calculation process is complete the system will produce an Information dialog box notifying the user that the "Logistical Calculations are Complete and to Select From The Report Options To View Results." Click on the *OK* button to continue.
11. Select from the Report Options to view the results.
12. Save the Files as desired
 - User Input, and, or
 - Logistical Data (Ingredients) and/or
 - Daily Menu with Requirements.

(The default directory is CFLM\LOGS. Using the Save features listed above saves only the data. The most useful format to save details is as a database file (.DBF) or spreadsheet file (.XLS).)
13. Click on the *Close Menu* button.
14. Click on the *Exit* button to return to the CFLM DBMS main menu.

9.4 Preview/Print Reports

The **Report** menu item allows the user to preview and/or print selected information derived from the *Logistical Inquiry A-Rations Screen*. The user has the option to view the reports on the screen and/or on paper. A report may be re-selected as often as desired. However, once a new inquiry is entered or the user leaves this screen, the information is lost unless the report was printed or the data saved to a file. To retrieve this data at a later time, a commercial database or spreadsheet software program must be used. To view the information, the user will select the **Report** menu item from the menu bar, select the desired report, and click on the appropriate radio button in the Report Generation dialog box. Selecting Preview sends the report to the *Page Preview Screen*; Print sends the report to the printer. The *Logistical Inquiry A-Rations Screen* Reports are described below:

9.4.1 Print User Input

The Print User Input Report option provides the user with a report that displays all data entered to generate the new inquiry. This report will display the ship information which can then be compared to the selected menu's requirements (i.e., freezer storage).

9.4.2 Print Selected Menu

The Print Selected Menu Report option provides the user with a report that displays each recipe entered by Day, Meal, Recipe No., and Item Name for the selected menu.

9.4.3 Print Menu with Labor/Eq/Strg/Cost Req.

The Print Menu with Labor/Eq/Strg/Cost Req. Report option provides the user with a report that displays the Number of Portions, Cost(\$), Storage Required per cubic foot (Dry, Chilled, Freezer), Labor Hours, Number of Ovens, and any other equipment required for individual recipes in the selected menu. Daily Totals for Cost (\$), Labor Hours, and Number of Ovens are provided as well as Totals for Menu Cycle for Cost(\$) and Storage Requirements.

9.4.4 Print Logistical Info with List of Requirements

The Print Logistical Info with List of Requirements Report option provides the user with a report that displays a summary of storage space requirements in cubic feet and ingredient costs broken out by the three different types of storage (Dry, Chilled, Frozen). The storage amounts are displayed by the Required Amount (based on the actual ingredients used) and the Minimum Amount (based on the minimum number of cases required). The Total Cost for the selected menu is also provided.

9.4.5 Identify Items by Application Logistical Code

The Identify Items by Application Logistical Codes Report option provides the user with a report that lists the NSN, Ingredient Name, Usage Management Code (when available), and the Acquisition Advice Code. If there are ingredients identified in this report which should not be used (i.e., Terminal Item) the user can go to the *Logistical Information Screen* to use the Print List of Recipes with this Ingredient Print option to list affected recipes.

9.4.6 Print List of Acquisition Advice Codes

This Report option provides the user with a list of Acquisition Advice Codes and Descriptions. The Acquisition Advice Codes are provided for NSN items in the Identify Items by Application Logistical Codes Report option described above.

9.4.7 Print List of Usage Management Codes

The Print List of Usage Management Codes Report option provides the user with a list of Usage Management Codes and Descriptions. The Usage Management Codes are provided for

NSN items in the Identify Items by Application Logistical Codes Report option described above.

10. OPTIONS - RUN OPTIMIZATION MODEL OPTION

10.1 General Information

The Options-Run Optimization Model Option *Logistical Optimization Screen* allows the user to view logistical information associated with specific ships for selected A-Ration menus. It also allows the user to compare this logistical information with that of a newly generated menu containing convenience food substitutes. This substitution menu can be optimized by iteratively changing the substitution rates and weights of the objective function (i.e., minimize cost, labor, etc.). The remainder of this section will describe in detail the *Logistical Optimization Screen* Command Buttons and step by step instructions for using the *Logistical Optimization Screen*.

10.2 Logistical Optimization Screen Command Buttons

10.2.1 Select Menu Command Button

Allows the user to view/select a menu. Clicking on this button produces the Open dialog box listing the menus stored in the CFLM\MENUS directory. Note that a menu located in another directory or drive may be accessed. Once selected, the menu name and file location are displayed in the Select Menu data field.

10.2.2 Select Ship Command Button

Allows the user to view/select the ships stored in CFLM DBMS. Clicking on this button produces a pop-up displaying all available ships. Once selected, the Ship's Name, Hull No., and Ship's Complement (Enlisted Only) data fields are entered.

10.2.3 Generate Substituted Menu Command Button

Allows the user to produce a new menu based on the data entered in the *Logistical Optimization Screen*. The new menu is developed using a mix of AFRS recipe items and convenience food substitutes based on the user's input (i.e., substitution rates, preferences). Clicking on this buttons starts the new menu generation process.

10.2.4 Close Menu Button

Allows the user to close the currently selected A-Ration menu file and start a new inquiry. Clicking on this button closes the current menu and clears the data fields.

10.2.5 Exit Command Button

Allows the user to exit the *Logistical Optimization Screen* and return to the CFLM DBMS main menu.

10.3 New Inquiry

The **New Inquiry** option allows the user to enter the information in the *Logistical Optimization Screen* (Figure 10.3-1) required for developing a new menu with convenience food substitutes. To run a new inquiry select the **New Inquiry** option from the **Inquiry** menu item in the menu bar.

CONVENIENCE FOOD LOGISTICS MODEL

File Inquiry Reports Help

Logistical Optimization

Select Menu

Select Ship

Ship's Complement (Estimated Only) 0

Enter the % of the Total # of Customers Who

Substit From The Speedline 0.0

Visit The Salad Bar 0.0

All Meals Substit From Gen. Menu (Y/N) F

Ship is at Sea (Y/N) F

Substitution Percentages:

Appetizers:	0.0
Breakfast Entrees:	0.0
Breakfast Side Dishes:	0.0
Breads:	0.0
Entrees:	0.0
Side Dishes:	0.0
Desserts:	0.0

Importance/Weight

Minimum Costs:	0.0
Minimum Labor Hours:	0.0
Minimum Chilled Storage:	0.0
Minimum Dry Storage:	0.0
Minimum Freezer Storage:	0.0

Attendance Rates:

Breakfast:	0.0
Lunch:	0.0
Dinner:	0.0
Mid-Rations:	0.0

Weekend Rates:

Breakfast:	0.0
Lunch:	0.0
Dinner:	0.0
Mid-Rations:	0.0

Generate Substituted Menu

Close Menu

Exit

To Save Model Input, Substituted Menu and Model Output After Optimization Model Run, Enter:

File Name for Model Input: A-Ration Menu w/Log file name: Substituted Menu w/Log file name:

File Name for Substituted Menu: File Name for Logistical Companion Data:

0 records copied

File Name

FIGURE 10.3-1 LOGISTICAL OPTIMIZATION SCREEN

10.3.1 How to Run a New Inquiry

1. Select the **New Inquiry** option from the **Inquiry** menu item in the menu bar. (System will prompt the user to Select a Menu)
2. Double-click on the *Select Menu* button.

3. Select desired menu from the Open dialog box. The user can select from other directories, but the Menu File must have been created or have the same structure as the Menu Files created from the CFLM DBMS. Click on the *Open* button.
4. Click on the *Select Ship* button and select appropriate ship from the pop-up.
5. Enter the % of the Total # of Customers Who Subsist from the Speedline (If Available) data field.
6. Enter the % of the Total # of Customers Who Visit the Salad Bar data field if default value is incorrect. Enter 0 (zero) if no Salad Bar is available.
7. Enter T or F in the All Ranks Subsist from the General Mess data field.
8. Enter T or F in the Ship is at Sea data field, selecting F would infer that the ship was inport. (Once entered the Attendance Rates data fields are filled in with the default rates.)
9. Enter the Attendance Rates data fields if different from defaults.
10. Enter the desired substitution rates (%) for each of the meal categories shown. Substitution rates must be less than 100 %. High substitution rates are likely to provide a dialog box notifying the user that the substitution rates are too high and the substitution process infeasible. The substitution rates entered will be used by the model to generate menus having the desired number of convenience food items based on the rates entered (i.e., if the Entrees field is given a 20.0 % substitution factor, the system will substitute 20% of the Entrees with a convenience item if feasible).
11. Enter the importance/weights for each of the objectives shown. These values must be between 1-10. This data field allows the user to set priorities for calculation factors (i.e., if the goal is to minimize costs, the Minimize Costs factor would be entered to identify to the system that minimizing costs is a priority.)
12. Click on the *Generate Substituted Menu* button. An Information dialog box appears notifying the user that "The System is Generating a New Menu, It May Take A Few Moments, Please Wait...." Click on the *OK* button to continue. When the processing is complete the system produces another Information dialog box notifying the user that the "Processing Has Completed, Select From The Report Options To View The Results." Click on the *OK* button to continue. If the data entered is not feasible the system will display an error message stating "Problem Infeasible, Reduce Substitution Rate and Re-run." Click on the *OK* button to continue.
13. Save the Files as desired. (Although the reports can not be saved in their existing format, the new data saved can later be manipulated by the user for other purposes.)
 - Save File Name for Model Input, and/or
 - Save A-Ration Menu w/Log. File Name, and/or
 - Save Substituted Menu w/Log. File Name, and/or

- Save File Name for Substituted Menu, and/or
- Save File Name for Logistical Comparison data.

(The default directory is CFLM\LOGS. Using the Save features listed above saves only the data. The most useful format to save details is as a database file (.DBF) or spreadsheet file (.XLS).)

14. Click on the *Close Menu* button.

15. Click on the *Exit* button to return to the CFLM DBMS main menu.

10.4 Preview/Print Reports

The **Report** menu item allows the user to preview and/or print selected information derived from the *Logistical Optimization Screen*. The user has the option to view the reports on the screen and/or on paper. A report may be re-selected as often as desired. However, once a new inquiry is entered or the user leaves this screen, the information is lost unless the report was printed or the data saved to a file. To view the information the user will select the **Report** menu item from the menu bar, select the desired report, and click on the appropriate radio button in the Report Generation dialog box.

Selecting Preview sends the report to the *Page Preview Screen*; Print sends the report to the printer.

The *Logistical Optimization Screen* reports are described below:

10.4.1 Print User Input

The Print User Input Report option provides the user with a report that displays all data entered to generate the new inquiry, information associated with the ship selected, and the estimated logistical requirements for the standard menu items.

10.4.2 Print Input A-Ration Menu

The Print Input A-Ration Menu Report option provides the user with a report that displays each recipe entered by Day, Meal, Recipe No., and Item Name for selected menu.

10.4.3 Print A-Ration Menu with Logistics

The Print Menu with Labor/Eq/Strg/Cost Req. Report option provides the user with a report that displays the Number of Portions, Cost(\$), Storage Required per cubic foot (Dry, Chilled, Freezer), Labor Hours, Number of Ovens, and any other equipment required for individual recipes in the selected A-Ration Menu. Daily Totals for Cost (\$), Labor Hours, and Number of Ovens are provided as well as Totals for Menu Cycle for Cost(\$ and Storage Requirements.

10.4.4 Print Optimized Menu with Substitutions

The Print Optimized Menu with Substitutions Report option provides the user with a report that displays the Substituted Menus for the Menu selected by Day, Meal, Recipe/Convenience

Product #, and Item Name. Three asterisks (***) before and after an Item Name represents the Item the system recommends based on the objectives entered.

10.4.5 Print Optimized Menu with Logistics

The Print Optimized Menu with Logistics Report option provides the user with a report that displays that displays the Number of Portions, Cost(\$), Storage Required per cubic foot (Dry, Chilled, Freezer), Labor Hours, Number of Ovens, and any other equipment required for Substituted Menus. Daily Totals for Cost (\$), Labor Hours, and Number of Ovens are provided as well as Totals for Menu Cycle for Cost(\$) and Storage Requirements.

10.4.6 Print Items with List of all Substitutes

The Print Items with List of all Substitutes Report option provides the user with a report that displays by Day, Meal, Recipe No. and Item Name the Convenience Substitute No. and Name of the menu items that have been identified as items to be replaced with Convenience Food Substitutes. Three asterisks (***) before and after an Item Name represents the Item the system recommends based on the objectives entered.

10.4.7 Print A-Ration versus Optimized Comparison

The Print A-Ration versus Optimized Comparison Report option provides the user with a report displaying by Day and Meal the Daily and Grand Totals for Cost, Storage Requirements, and Labor Hours for the A-Ration Menu and its Substituted Menu.

10.4.8 Print Equipment Comparison

The Print Equipment Comparison Report options provides the user with a report displaying by Day and Meal the Daily and Grand Total Equipment Requirement for Ovens, Fryers, Kettles, Mixers, and Griddles for the A-Ration Menu and its Substituted Menu.

11. OPTIONS - UPDATE PRICES

11.1 General Information

The *Price Update Screen* allows the user to automatically update the ingredient prices and recipe costs for recipes entered in the CFLM DBMS. This option should be used with caution as it could corrupt the Logistics File and cost information in the Recipe File if done improperly. The remainder of this section will describe in detail the *Price Update Screen* Command Buttons and step by step instructions for using the *Price Update Screen*.

11.2 Price Update Screen Command Buttons

11.2.1 Update Prices Command Button

The *Update Prices* button allows the user to start the price update process. If the file information is incomplete, an error message will appear prompting the user to enter the Name of File Containing New Prices. The cursor will be returned to the field where the Drive is entered. Executing this feature will adjust the unit costs in the Logistical File used by the model to store the data found in the Group 89 FSC. This feature only updates the prices and dates (as entered by the user on the screen) for matching items. New items must first be entered using the *Logistical Information Screen*. (Note, these items would most likely be identified in the Updating File by an A in the Action Code field).

11.2.2 Update Recipe Costs Command Button

The *Update Recipe Costs* button allows the user to commence the process of updating the recipes stored in the CFLM DBMS based on the updated ingredient prices. This process could take an hour or more to complete.

11.2.3 Close File Command Button

The *Close File* button allows the user to close the update file.

11.2.4 Exit Command Button

Allows the user to exit the *Price Update Screen* and return to the CFLM DBMS main menu.

11.3 Logistics File Database Price Update Procedures

To update the Logistics File Database Prices select the **Update Prices** option from the **Options** menu item in the menu bar. The ***Price Update Screen*** (Figure 11.3-1) will appear. The default values listed below are based on the FoxPro database file used by NAVSUP to maintain the data found in the Group 89 FSC. Note that these values are defaults and can be modified as necessary.

- **DEFAULT VALUES**
 - Drive - A
 - Path - None
 - Filename - UFOODITM.DBF
 - Field - CURFPRI.

To successfully perform the price update function the FoxPro database file used to update the model must have at least the following data fields defined:

- **FOXPRO DATABASE FILE - REQUIRED DATA FIELDS**
 - NSN - A character data type field named NSN with a width of 13 .
 - PRICE - A numeric data type field containing the unit price with a width of 6 and 2 decimal places.

This table should be indexed on the NSN. The index file should also exist in the selected drive/path (i.e. UFOODITM.CDX).

FIGURE 11.3-1 PRICE UPDATE SCREEN

11.3.1 How to Update Prices

1. Enter the Drive data field where the Update File is located (i.e., A).
2. Enter the Path data field, if applicable.
3. Enter the name of the file containing the new prices in the Filename data field. The Filename entered cannot be 'LOG_FILE'. It must be a FoxPro compatible database file with the key field being 'NSN' and the CDX index on 'NSN'. An error message will appear notifying the user if the Update File is in an unacceptable format.
4. Enter the Field data field (this is the name of the field that represents the new unit price in the update file).
5. Enter the current fiscal month/year associated with the current information.
6. Enter the actual price month/year associated with the current information.
7. Click on the *Update Prices* button.
8. Click on the *Update Recipe Prices* button. An Information dialog box will appear notifying the user that "This Process Could Take An Hour Or More. Continue?" Click on the *Yes* button to continue.
9. Click on the *Close* button to close the active file.
10. Click on the *Exit* button to return to the CFLM DBMS main menu.

APPENDICES

APPENDIX A - GLOSSARY OF TERMS AND ABBREVIATIONS

Acquisition Advice Code

Identifies the type of purchase for the product (i.e., Local Purchase, DOD Integrated Material, etc.).

Action Code

A code denoting an addition, change, or deletion to published data.

AFRS

Armed Forces Recipe Service.

Browse Window Screen

Allows the user to enter ingredient amounts required for a recipe and to make changes to existing ingredient information.

Check Boxes

Provide the ability to select from various options. When an option is selected, an 'X' appears in the box; otherwise the box appears empty. Click in the check box to select and deselect an option.

Command Buttons

Buttons used throughout the CFLM DBMS to invoke a particular action associated with a screen. Most Command Buttons only require a single-click on the mouse to be executed.

Convenience Food Logistics Model (CFLM)

A stand-alone system used to conduct costs/benefits of convenience food product substitution by iteratively running the CFLM for various ship types, attendance and selection rates.

Convenience Foods Screen

Allows the user to add, delete and search for Convenience Food Products. The information stored in the Convenience Food Product database file is used to associate A-Ration recipe items with similar convenience food products to be used on board Navy Ships.

CPU

Central Processing Unit.

DBMS

Database Management System.

FIC

Food Identification Code.

FSC

Federal Stock Catalog.

Index Number

A sequencing number assigned to each item in accordance with its alphabetical position.

Ingredients Screen

A subsystem of the Recipe Information Screen, the Ingredients Screen allows the user to view a list of ingredients required in the selected recipe. Ingredients may be added, changed or deleted from this screen.

Labor Code

The effort involved in preparing the convenience food product (i.e., Heat and Serve, Thaw and Serve, etc.). (Refer to Appendix D for a list of Convenience Food Product Labor Codes.)

Labor Type

The effort involved in preparing the recipe (i.e., Prepare and Bake, Bake from Scratch, Bake from Mix, etc.). (Refer to Appendix C for a list of Recipe Labor Codes.)

Price Update Screen

Allows the user to automatically update the ingredient prices and recipe costs for recipes entered in the CFLM DBMS.

Logistical Information Screen

Allows the user to update the Logistical Database file containing the food products available through the Federal Supply Catalog.

Logistical Inquiry A-Rations Screen

Allows the user to view logistical information associated with specific ships for selected menus.

Logistical Optimization Screen

Allows the user to view logistical information associated with specific ships for selected A-Rations menus. It also allows the user to compare this logistical information with that of a newly generated menu containing convenience food substitutes.

Menu Creation Screen

Allows the user to create new menus, select and modify existing menus, and delete selected menus from the CFLM DBMS.

NAVSUP

Naval Supply Systems Command.

NSN

National Stock Number.

Product Type

A descriptor for the food product or ingredient (i.e., pasta items, Asian food, seafood, etc.).

Radio Buttons

Radio buttons are displayed as circles with a black dot placed in the center of the chosen option. If the user selects a different option, the one currently selected is changed back to a plain circle. Only one option may be selected at a time.

Recipe Category

The part of the meal for which the recipe would be served (i.e., appetizer, entree, etc.). (Refer to Appendix E for a listing of Recipe Categories.)

Recipe Information Screen

Allows the user to perform functions such as add, delete and search for recipes in the AFRS database.

Refreshing the Screen

The process by which new data appears as the system moves to a new record.

Search

Allows the user to identify items stored in the AFRS database that meet specified criteria.

Select a Meal

Allows the user to identify the meal category for the recipe item (breakfast, lunch, dinner, midrats).

Ship Information Screen

Allows the user to enter all pertinent ship information for ship classification, ship type and class of ship.

Status Bar

Located at the bottom of the screen, the status bar indicates the leading table into which information is being stored. It will also indicate the record number in the table where the system is standing.

Storage Type

The form of storage required for a Food Product (chilled, dry, or freezer).

Substitution List

A list of convenience food products which may be suitable substitutes for selected recipes.

Usage Mgmt Codes

Identify the type of usage for the food product (i.e., Afloat Only, Submarines Only, Controlled Item, etc.).

APPENDIX B - ERROR MESSAGES

ERROR ID	ERROR MESSAGE
ADDCATGRY	You Must First Enter A Category, Then A Manufacturer.
ADDINGR	You Must First Enter The Ingredients For This Recipe.
ADDMANUF	You Must Enter The Manufacturer of This Product.
ADDPTYPE	You Must First Enter The Product Type For This Product.
ADDQTY	Please Enter A Quantity And Cook_Unit For All Ingredients.
CASECOST	You Must Enter The Cost/Case For The Convenience Food Product.
CASESVGS	You Must Enter The Servings Per Case For The Convenience Food Product Based on Mnfr. Suggested Serving Size.
CASEVOL	You Must Enter A Case Volume For The Convenience Food Product.
CASEWGT	You Must Enter The Net Weight/Case For The Convenience Food Product.
CLOSEMEN	Close Menu File Before Running A New Logistical Inquiry.
CODECHG	If You Changed The Category Code Or Product Type Of This Recipe, Re-Generate The Conv. Foods Subst. List Their Prefix
CODEEXST	This Prefix Is Used To Identify Another Product Type. Please Select Another Prefix.
COMPLETE	Logistical Calculations are Complete. Select From The Report Options To View Results.
DBFFILE	The File Used To Update Prices Must Be A FOXPROW Compatible (.dbf) File.
DBFSELE	The File Selected Must Be A .dbf File Generated Through The Menu Screen.
DELMENU	Are You Sure You Want To Delete The Selected Menu File?
DELWARN	Are You Sure You Want To Delete The Current Record?
DOCALC	If You Added, Deleted, Or Changed An Ingredient, Re-Calculate Cost/100.
ENTRUNIT	You Must Enter The Units of Measure.
FILEOPEN	Your Price Updating File Is Open. Press 'Close File' Button Before Exiting.
FLEXIST	This File Already Exists. Copy Over Existing File? Select 'No' To Save Changes To New Menu File.
GROSSWT	You Must Enter The Gross Weight/Case For The Convenience Food Product.
GT100	The Substitution Rate Should Be Between 0 And 100 (%).
INFEAS	Problem Infeasible. Reduce Substitution Rate and re-run.
INVALID	You Can Not Update The Logistical File (LOG_FILE.dbf) With A File Of The Same Name.
LABRSEL	You Must Select The Type Labor Required To Prepare This Item.
LENGTH	The Length of The National Stock Number (NSN) Must Be 13 Digits.
LOGCALC	The System is Calculating The Logistical Data. It May Take A Few Moments. Please Wait.....
MANUEXST	This Manufacturer Already Exists.
MENUGEN	Processing Has Completed. Select From The Report Options To View Results.
MENUSELE	You Must Select A Menu File Before Adding Recipes. Select From Menu Options.
NEWMENU	The System is Generating a New Menu. It May Take A Few Moments. Please Wait.....
NODIR	The Tables In This Directory Are Restricted. Please Select Again.
NONAME	You Must Give The Menu File A Name.
NORECORDS	No Records Found.
NORECP	There Are No Recipes Associated With This Item.
NOSUBST	The Database Contains No Convenience Food Substitutes For This Recipe.

ERROR ID	ERROR MESSAGE
NSMNUM	Enter An NSN First.
NWNAME	You Must Enter A File Name.
PORTSIZE	You Must Enter A Portion Size For Both The Convenience Food Product And A Comparable AFRS Recipe.
PORTUNIT	The AFRS Portion Must Be Compatible With The Convenience Food Product Or In 'OZ.'
PRESSAVE	You Must First Press The Save Button To Store New Recipe/Product.
PRFXEXST	This Prefix Is Used To Identify Another Manufacturer. Please Select Another Prefix.
RECLENG	The Length of The Recipe Number Must Be Equal To 6.
RECNUM	Enter A Recipe Number First.
RECPXST	This Recipe Number Already Exists. Enter New Number.
SAVECHG	Did You Save Changes First?
SAVECOMP	Do you want to save comparison information between the A-ration and Substituted menus?
SAVEINP	Do You Wish To Save The Input Used In This Inquiry? If 'Yes,' Enter Filename Now.
SAVELOG	Do You Wish To Save The Output Logistical Data? If 'Yes,' Enter Filename Now.
SAVEMEN	A Menu File Is Open. Press 'Close Menu' Before Leaving Screen Or Creating A New Menu File.
SAVEMSG	Select From The Following Options.
SAVESUB	Do You Wish To Save The New Menu File? If 'Yes,' Enter Filename Now.
SAVESUM	Do You Wish To Save The Input Menu File With Portions, Costs, Storage Reqmts, Labor & Equipment Info? If 'Yes,' Enter Filename Now.
SAVFILE	Save Changes To Current Menu File? Select 'No' To Save Changes To New Menu File.
SAVMENU	Enter A File Name For The Menu File You Created.
SELEFILE	Enter Name of File Containing New Prices.
SELMENU	Press The 'Select Menu File' Button To Locate a Menu File.
STORTYPE	You Must Select The Type Of Storage Required For This Convenience Food Product.
SUBLIST	Identifying Convenience Food Substitutes May Take A Few Minutes. Please Wait.
TWOCHAR	This Number Should Contain Two Digits.
TYPEEXST	This Product Type Already Exists.
UNITS	Cook_Units In The Ingredient File Are Incompatible With The Units Of Issue In The Logistical File. Revise And Rerun Cost Calculation.
UPDATE	This Message Will Disappear When The Recipe Costs Have Been Updated. Press 'OK' to Continue.
UPDTRECP	This Process Could Take An Hour Or More. Continue?
WAITOPEN	Please Wait Until The New Price File Has Been Opened.
WRNGCODE	The Length of The Manufacturer's Product Code Must Not Be Longer Than 8.
WT10	Weight should be between 0 and 10
ZPREFIX	Note that changes to the existing AFRS Recipes should be done by creating a new recipe with a 'Z' prefix.

APPENDIX C - RECIPE LABOR CODES

LABOR		TIME (MIN) /# PORTIONS		
CODE	DESCRIPTION	/100	/200	/500
BE	EASY BAKE	45	80	120
BMP	MEATLOAF: MORE PREP REQ.	120	210	300
BMX	BAKE W/MIX	15	30	45
BP	PREPARE & BAKE	100	170	250
BPRG	PROG. COOK/BAKED	100	100	100
BPRS	PREPARE, ROAST & SLICE	150	200	330
BRD	BREADS	45	60	105
BRS	BREADS: SHORT TIME	30	45	90
BS	BAKE FROM SCRATCH	30	35	50
BTR	BATTER	10	10	10
BWSM	WGH, SL, MLD, BAKE (SALS.STK)	90	180	280
BYD	BAKE/FRY W/YEAST DOUGH: DIFFI	135	180	260
BYE	BAKE/FRY W/YEAST DOUGH: EASY	110	150	200
BYMX	BAKE/FRY W/YEAST USING A MIX	60	80	180
CKD	CAKE DONUTS	60	75	105
CKDM	CAKE DONUTS W/ MIX	45	60	75
CKDMT	CAKE DONUTS W/ MIX & TOPP	60	75	90
CKDT	CAKE DONUTS W/TOPPING	75	90	120
COM	COMMERCIALLY PURCHASED ITEM	10	20	35
COMP	COMMERCIALLY PURCH. W/PREP.	30	50	85
COMX	COOKIES W/MIX	45	60	120
COSCR	COOKIES FROM SCRATCH	60	75	155
CP	COLD PREP. REQ. (SANDWICH)	50	100	180
CRPF	CREAM PUFFS	120	165	240
CSC	COLD SAUCE	20	25	35
CSP	COLD SAUCE: XTRA PREP. REQ	25	40	60
EGGS	EGGS TO ORDER/OMELETTES	90	105	120
FPRG	PROG. COOK/FRIED	125	150	180
FR	FRIED - NO PREP	30	45	90
FRP	FRIED-W/PREP	50	80	150
FRT	FRUIT CUP/ITEM	75	105	180
FRXP	FRIED - W/EXTRA PREP REQ	290	400	600
GBH	BACON/HAM GRILLED OR OVEN GRL	25	35	80
GE	EASY GRIDDLE (PANCAKES)	60	80	120
GP	GRIDDLE: MORE PREP. REQ.	80	100	140
GPRG	PROG. COOK/GRIDDLE	110	120	150
GXP	GRILL-XTRA PREP. REQ (FAJITAS)	180	320	600
HSC	HOT SAUCE/GRAVY	25	40	60

LABOR		TIME (MIN) /# PORTIONS		
CODE	DESCRIPTION	/100	/200	/500
HSMX	HOT SAUCE/GRAVY FROM A MIX	20	25	35
JUICE	CND/CONC JUICE MIX	10	20	45
KE	KETTLE COOKED - EASY	15	25	45
KPRG	PROG. COOK/STEAM	110	130	180
LASGN	LASAGNE/PREP. CASSEROLE	165	210	420
MFNX	MUFFINS W/MIX	40	60	90
MFSC	MUFFINS FROM SCRATCH	60	75	105
MXFRE	MIX & FRY: EASY	35	45	60
MXFRP	MIX & FRY: MORE PREP. REQ	50	80	150
OAGR	OATMEAL/GRITS	10	15	20
OTHDS	OTHER DESSERTS	30	45	90
PDGL	PUDDINGS/GELATINS W/MIX	15	20	30
PIECM	CREAM/CUSTARD PIES W/MIX	60	75	135
PIECS	CREAM/CUSTARD PIES: SCRATCH	100	125	200
PIEFP	FRUIT PIE/COBLRS W/PREP FILLG	45	60	120
PIEFS	FRUIT PIE/COBLRS: SCRATCH	75	90	150
PRCE	EASY PASTA/RICE CASSEROLE	45	65	100
PSRCG	PASTA/RICE MIX: GRIDDLE	60	75	135
PSRCO	PASTA/RICE MIX: OVEN PREP	45	60	120
PSTRC	PASTA/RICE	20	30	45
PZ	PIZZA	150	200	240
ROL	ROLLS	50	80	180
SPC	CONDENSED CANNED/DEHYD. SOUPS	10	20	45
SPS	SOUPS FROM SCRATCH	30	60	120
STE	STEWES: EASY PREP	50	80	160
STP	STEWES: MORE PREP TIME REQ	100	150	210
STXP	STEWES: EXTRA PREP TIME REQ	180	300	480
TST	TOAST/WAFFLES	15	25	45
VC	VEGETABLE ITEM/CASSEROLE	20	50	80
VCE	EASY VEG OR POT. ITEM/CASSEROL	15	20	35
VFR	FRESH VEGETABLES	75	105	180
VFZ	FROZEN VEGETABLES	20	45	105
VPC	VEGETABLE ITEM/CASSEROLE (POT)	30	60	120
VS	VEGETABLE SALAD	75	105	180
VSTRF	STIR FRY VEGETABLES	40	60	100

APPENDIX D - CONVENIENCE FOOD LABOR CODES

LABOR		TIME (MIN)/# PORTIONS		
CODE	DESCRIPTION	/100	/200	/500
BFE	BREAKFAST ENTREE ITEMS	25	50	120
BHT	BAKERY HEAT/NON INDIV ITEMS	15	25	45
BKI	BAKERY INDIVIDUAL (NON-YEAST)	20	30	70
BTT	READY MADE BATTERS	20	35	90
FRY	DEEP FAT FRYER	30	45	90
GRD	GRIDDLE/NON-PROGRESSIVE	25	35	80
HAS	HEAT AND SERVE	7	15	35
HAT	HEAT AND TRANSFER	15	30	60
HT1	HEAT, INDIV. PKGD(LOW COUNT)	25	50	120
HT2	HEAT, INDIV. PKGD(HIGH COUNT)	20	40	95
KET	HEAT IN KETTLE/NON-PROGRESSIVE	10	20	45
PST	PASTA	20	30	45
TAS	THAW/SERVE	10	20	35

APPENDIX E - RECIPE CATEGORIES

CATEGORY DESCRIPTION		SEL_RATE
AP	APPETIZER	51.8
BE	BREAKFAST ENTREES	57.1
BR	BRDS/BISCUITS/ROLLS/MUFFINS	80.0
BS	BREAKFAST SIDE ITEMS	47.8
BV	BEVERAGES	64.6
DS	DESSERT	70.9
EN	ENTREE	62.7
MS	MISCELLANEOUS	25.0
SC	SAUCES	49.6
SI	SIDE ITEM	71.2

APPENDIX F - PRODUCT TYPES

PRODUCT CODE	PRODUCT TYPE DESCRIPTION
ASIA	ASIAN ITEM
BAKG	BREADS/BISCUITS/ROLLS
BEFG	GROUND BEEF ITEM
BEFR	ROAST BEEF ITEM
BEFS	BEEF (STEAK) ITEM
BKFT	BREAKFAST ITEMS
CAJN	CREOLE/CAJUN ITEM
CAKE	CAKES
CDAP	COLD APPETIZER
CDBV	COLD BEVERAGE
CHKN	CHICKEN ITEM
COOK	COOKIES
DUCK	DUCK ITEM
EGDS	EGG ITEM
FISH	FISH ITEM
FRUT	FRUIT
GLTN	GELATIN ITEM
GRMY	GERMAN ITEM
GRVY	GRAVIES
HTAP	HOT APPETIZER
HTBV	HOT BEVERAGE
ICEY	ICE CREAM/YOGURT
ITAL	ITALIAN ITEM
LAMB	LAMB ITEM
MEXI	MEXICAN ITEM
MISC	MISCELLANEOUS
MSMN	MISC MAINITEMS
MSSI	MISC SIDE ITEMS
MSTP	MISCELLANEOUS TOPPINGS
PDDG	PUDDING
PIEC	CREAM PIE/CUSTARD/MISC
PIEF	FRUIT/NUT PIE
PORK	PORK ITEM
PSCH	PASTA WITH CHEESE
PSMT	PASTA WITH MEAT OR SEAFOOD
PSTA	PASTA ITEM
RCDH	RICE ITEM
RELH	RELISHES
SFDH	SEAFOOD ITEM
SLAD	SALAD
SLDR	SALAD DRESSINGS

PRODUCT	PRODUCT TYPE DESCRIPTION
CODE	
SNDW	SANDWICH
SOUT	SOUTHERN ITEM
SPBF	BEEF BASED SOUP
SPCK	CHICKEN BASED SOUP
SPCR	CREAM OF (SOUPS)
SPPK	PORK BASED SOUP
SPSF	SEAFOOD BASED SOUPS
SPVG	VEGETABLE SOUP
SWSA	SWEET SAUCES/TOPPINGS
TRKY	TURKEY ITEM
VEAL	VEAL ITEM
VEGP	VEGETABLE ITEM (POTATOES)
VEGT	VEGETABLE ITEM
WSIN	WEST INDIAN ITEM

APPENDIX G - SHIP CLASSIFICATION, TYPE, CLASS CODES

SHIP CLASSIFICATION

Ship Classification	Description
AUX	AUXILIARY SHIP
AWC	AMPHIBIOUS WARFARE CRAFT
AWS	AMPHIBIOUS WARFARE SHIP
CS	COMBATANT SHIP
MWS	MINE WARFARE SHIP
PC	PATROL CRAFT
SC	SERVICE CRAFT

TYPE CODES (WITHIN A CLASSIFICATION)

Ship Class	Type Code	Type Code Description
AUX	AD	DESTROYER TENDER
AUX	AE	AMMUNITION SHIP
AUX	AFS	COMBAT STORE SHIP
AUX	AG	MISCELLANEOUS
AUX	AGDS	DEEP SUBMERGENCE SUPPORT SHIP
AUX	AGEH	HYDROFOIL RESEARCH SHIP
AUX	AGF	MISCELLANEOUS COMMAND SHIP
AUX	AGM	MISSILE RANGE INSTRUMENTATION SHIP
AUX	AGOR	OCEANOGRAPHIC RESEARCH SHIP

Ship Class	Type Code	Type Code Description
AUX	AGP	PATROL CRAFT TENDER
AUX	AGSS	AUXILIARY RESEARCH SUBMARINE
AUX	AH	HOSPITAL SHIP
AUX	AK	CARGO SHIP
AUX	AKR	VEHICLE CARGO SHIP
AUX	ALS	AUXILIARY LIGHTER
AUX	AO	OILER
AUX	AOE	FAST COMBAT SUPPORT SHIP
AUX	AOG	GASOLINE TANKER
AUX	AOR	REPLENISHMENT OILER
AUX	AOT	TRANSPORT OILER
AUX	AP	TRANSPORT
AUX	APB	SELF PROPELLED BARRACKS SHIP
AUX	AR	REPAIR SHIP
AUX	ARC	CABLE REPAIRING SHIP
AUX	ARL	REPAIR SHIP, SMALL
AUX	ARS	SALVAGE SHIP
AUX	AS	SUBMARINE TENDER
AUX	ASR	SUBMARINE RESCUE SHIP
AUX	ATA	AUXILIARY OCEAN TUG
AUX	ATF	FLEET OCEAN TUG
AUX	ATS	SALVAGE AND RESCUE SHIP
AUX	AVM	GUIDED MISSILE SHIP
AUX	AVT	AUXILIARY AIRCRAFT LANDING TRAINING SHIP
AUX	AGOS	OCEAN SURVEILLANCE SHIP
AWC	LCAC	LANDING CRAFT, AIR CUSHION
AWC	LCM	LANDING CRAFT, MECHANIZED
AWC	LCPL	LANDING CRAFT, PERSONNEL, LARGE
AWC	LCU	LANDING CRAFT, UTILITY
AWC	LCVP	LANDING CRAFT, VEHICLE, PERSONNEL
AWC	LSSC	LIGHT SEAL SUPPORT CRAFT
AWC	LWT	AMPHIBIOUS WARPING TUG
AWC	MSSC	MEDIUM SEAL SUPPORT CRAFT
AWC	SDV	SWIMMER DELIVERY CRAFT
AWC	SLWT	SIDE LOADING WARPING TUG
AWC	SWCL	SPECIAL WARFARE CRAFT, LIGHT
AWC	SWCM	SPECIAL WARFARE CRAFT, MEDIUM
AWS	LCC	AMPHIBIOUS COMMAND SHIP
AWS	LHA	AMPHIBIOUS ASSAULT SHIP
AWS	LHD	AMPHIBIOUS ASSAULT SHIP

Ship Class	Type Code	Type Code Description
AWS	LKA	AMPHIBIOUS CARGO SHIP
AWS	LPD	AMPHIBIOUS TRANSPORT DOCK
AWS	LSD	DOCK LANDING SHIP
AWS	LSV	LOGISTICS SUPPORT VESSEL (ARMY)
AWS	LST	TANK LANDING SHIP
AWS	LPH	AMPHIBIOUS ASSAULT SHIP (HELICOPTER)
CS	CV	AIRCRAFT CARRIER
CS	CVN	AIRCRAFT CARRIER (NUCLEAR PROP)
CS	CG	GUIDED MISSILE CRUISER
CS	CGN	GUIDED MISSILE CRUISER (NUCLEAR PROP)
CS	DD	DESTROYER
CS	DDG	GUIDED MISSILE DESTROYER
CS	FF	FRIGATE
CS	FFG	GUIDED MISSILE FRIGATE
CS	PHM	PATROL COMBATANT MISSILE (HYDROFOIL)
CS	SSBN	BALLISTIC MISSILE SUB (NUCLEAR PROP)
CS	SSN	ATTACK SUBMARINE (NUCLEAR PROP)
CS	SSAG	AUXILIARY SUBMARINE
MWS	MCM	MINE COUNTERMEASURES SHIP
MWS	MHC	MINEHUNTER COASTAL
MWS	MSO	MINESWEEPER OCEAN
MWS	MSB	MINESWEEPING BOATS
MWS	MSD	MINESWEEPING DRONES
PC	ATC	MINI-ARMORED TROOP CARRIER
PC	PB(C)	PATROL BOAT (COASTAL)
PC	PBR	RIVER PATROL BOAT
PC	PC	PATROL CRAFT
PC	PCF	PATROL CRAFT' (FAST)
PC	PCC	PATROL CRAFT (COASTAL)
SC	AFDB	LG AUX FLOATING DRY DOCK (NON SELF-PROP)
SC	AFDL	SML AUX FLTG DRY DOCK (NON SELF-PROP)
SC	AFDM	MED AUX FLTG DRY DOCK (NON SELF-PROP)
SC	APL	BARRACKS CRAFT (NON SELF-PROP)
SC	ARD	AUX REPAIR DRY DOCK (NON SELF-PROP)
SC	ARDM	MED AUX REPAIR DRY DOCK (NON SELF-PROP)
SC	DSRV	DEEP SUBMURGENC RESCUE VEHICLE
SC	DSV	DEEP SUBMERGENCE VEHICLE
SC	HSB	HARBOUR SECURITY BOATS
SC	IX	UNCLASSIFIED MISCELLANEOUS
SC	NR	SUBMERSIBLE RESEARCH VEHICLE

Ship Class	Type Code	Type Code Description
SC	YAG	MISC. AUXILIARY (SELF-PROPELLED)
SC	YC	OPEN LIGHTER (NON SELF-PROPELLED)
SC	YCF	CAR FLOAT (NON SELF-PROPELLED)
SC	YCV	AIRCRAFT TRANSPORTATION LIGHTER (NSP)
SC	YD	FLOATING CRANE (NON SELF PROP)
SC	YDT	DIVING TENDER (NON SELF PROPELLED)
SC	YF	COVERED LIGHTER (SELF-PROPELLED)
SC	YFB	FERRY BOAT OR LAUNCH (SELF-PROPELLED)
SC	YFD	YARD FLOATING DRY DOCK (NON SELF PROP)
SC	YFN	COVERED LIGHTER (NON SELF PROP)
SC	YFNB	LG COVERED LIGHTER (NON SELF PROP)
SC	YFND	DRY DOCK COMPANION CRFT (NON SELF PROP)
SC	YFNX	LIGHTER (SPECIAL PURPOSE) (NON SELF PROP)
SC	YFP	FLOATING POWER BARGE (NON SELF PROP)
SC	YFR	REFRIGERATED COVERED LIGHTER (SELF-PROP)
SC	YFRN	REFRIG. COVERED LIGHTER (NON SELF PROP)
SC	YFRT	COVERED LGHTR (RANGE TENDER) (SELF-PROP)
SC	YFU	HARBOR UTILITY CRAFT (SELF-PROPELLED)
SC	YG	GARBAGE LIGHTER (SELF-PROPELLED)
SC	YGN	GARBAGE LIGHTER (NON SELF PROP)
SC	YHLC	SALVAGE LIFT CRAFT, MED (NON SELF PROP)
SC	YM	DREDGE (SELF-PROPELLED)
SC	YMLC	SALVAGE LIFT CRAFT, MED (NON SELF PROP)
SC	YNG	GATE CRAFT (NON SELF PROP)
SC	YO	FUEL OIL BARGE (SELF-PROPELLED)
SC	YOG	GASOLINE BARGE (SELF-PROPELLED)
SC	YOGN	GASOLINE BARGE (NON SELF PROP)
SC	YON	FUEL OIL BARGE (NON SELF PROP)
SC	YOS	OIL STORAGE BARGE (NON SELF PROP)
SC	YP	PATROL CRAFT (SELF-PROPELLED)
SC	YPD	FLOATING PILE DRIVER (NON SELF PROP)
SC	YR	FLOATING WORKSHIP (NON SELF PROP)
SC	YRB	REPAIR AND BERTHING BARGE (NSP)
SC	YRBM	REPAIR, BERTHING AND MESSING BARGE (NSP)
SC	YRDH	FLOATING DRY DOCK WORKSHOP (HULL) (NSP)
SC	YRDM	FLOATING DRY DOCK WORKSHOP (MC) (NSP)
SC	YRR	RADIOLOGICAL REPAIR BARGE (NSP)
SC	YRST	SALVAGE CRAFT TENDER (NON SELF-PROP)
SC	YSD	SEAPLANE WRECKING DERRICK (SELF-PROP)
SC	YSR	SLUDGE REMOVAL BARGE (NON SELF-PROP)

Ship Class	Type Code	Type Code Description
SC	YTB	LARGE HARBOUR TUG
SC	YTL	SMALL HARBOUR TUG
SC	YTM	MEDIUM HARBOUR TUG
SC	YW	WATER BARGE (SELF-PROPELLED)
SC	YWN	WATER BARGE (NON SELF-PROP)

SHIP CLASS

Type Code	Class Code	Class Code Description
AD	SG	SAMUEL GOMPERS CLASS
AD	YW	YELLOWSTONE CLASS
AE	SR	SURIBACHI CLASS
AE	NT	NITRO CLASS
AE	KIL	KILAUEA CLASS
AE	AS	AMMUNITION SHIP
AFS	MARS	MARS CLASS
AFS	CSS	COMBAT STORES SHIP
AG	SS	SURVEYING SHIPS
AG	NRS	NAVIGATION RESEARCH SHIP
AGF	RALAU	RALEIGH AND AUSTIN CLASS
AGM	MRIS	MISSILE RANGE INSTRUMENTN. SHIPS (TYPE)
AGOR	ORS	OCEANOGRAPHIC RESEARCH SHIPS (TYPE)
AGOS	OSS	OCEAN SURVEILLANCE SHIPS
AGSS	DOLPH	DOLPHIN CLASS
AH	HS	HOSPITAL SHIPS
AK	FBMSS	FLEET BALLISTIC MISSILE SUPPORT SHIP
AK	MPS	MARITIME PREPOSITIONING SHIPS (MPS)
AK	LASH	LASH (TYPE)
AK	FRTR	FREIGHTERS (TYPE)
AKR	FSS	FAST SEALIFT SHIPS (TYPE)
AO	HJK	HENRY J. KAISER CLASS
AO	TNKR	TANKERS (TYPE)
AO	CIMAR	CIMARRON CLASS
AOE	SACR	SACRAMENTO CLASS
AOE	SUPPLY	SUPPLY CLASS
AOR	WICH	WICHITA CLASS
AR	CRS	CABLE REPAIR SHIPS
ARS	BOL	BOLSTER CLASS
ARS	SAFE	SAFEGUARD CLASS

Type Code	Class Code	Class Code Description
AS	HUNLEY	HUNLEY CLASS
AS	SIMON	SIMON LAKE CLASS
AS	SPEAR	SPEAR CLASS
AS	EMORY	EMORY S LAND CLASS
ASR	CHANT	CHANTICLEER CLASS
ASR	PIGEON	PIGEON CLASS
ATF	POWH	POWHATAN CLASS
ATS	EDEN	EDENTON CLASS
AVT	ASS	AVIATION SUPPORT SHIPS
CG	TICON	TICONDEROGA CLASS
CG	LEAHY	LEAHY CLASS
CG	BELK	BELKNAP CLASS
CGN	BAIN	BAINBRIDGE CLASS
CGN	TRUX	TRUXTON CLASS
CGN	CALIF	CALIFORNIA CLASS
CGN	VIRG	VIRGINIA CLASS
CV	FORR	FORRESTAL CLASS
CV	KITTY	KITTY HAWK CLASS
CV	JFK	JOHN F KENNEDY CLASS
CVN	ENTER	ENTERPRISE CLASS
CVN	NIMITZ	NIMITZ CLASS
DD	SPRU	SPRUANCE CLASS
DDG	ARLE	ARLEIGH BURKE CLASS
DDG	KIDD	KIDD CLASS
FF	KNOX	KNOX CLASS
FFG	OLIVER	OLIVER HAZARD PERRY CLASS
LCC	BLUE	BLUE RIDGE CLASS
LHA	TARA	TARAWA CLASS
LHD	WASP	WASP CLASS
LPD	AUSTIN	AUSTIN CLASS
LPH	IWO	IWO JIMA CLASS
LSD	ANCHOR	ANCHORAGE CLASS
LSD	WIC	WHIDBEY ISLAND CLASS
LST	NEWPRT	NEWPORT CLASS
MCM	AVENGR	AVENGER CLASS
MHC	OSPR	OSPREY CLASS
MSO	AGRESS	AGRESSIVE CLASS
PC	CYCL	CYCLONE CLASS
SSBN	JAMES	JAMES MADISON CLASS
SSBN	BENJ	BENJAMIN FRANKLIN CLASS

Type Code	Class Code	Class Code Description
SSBN	OHIO	OHIO CLASS
SSN	BENF	BENJAMIN FRANKLIN CLASS
SSN	SEAW	SEAWOLF CLASS
SSN	STURG	STURGEON CLASS
SSN	NARW	NARWHAL CLASS
SSN	LOSANG	LOS ANGELES CLASS